



Drug-related deaths in the UK

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Substance Abuse Deaths
(np-SAD)
International Centre for
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Annual Report 2007

***national programme on Substance
Abuse Deaths
(np-SAD)***

**Drug-related deaths reported by Coroners in
England, Wales, Northern Ireland, Guernsey,
Jersey and the Isle of Man; Police forces in
Scotland; & the Northern Ireland Statistics and
Research Agency**

**Annual Report January-December 2006
and 19th Surveillance Report July-December 2006**

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The views expressed in this report are those of the authors, not necessarily those of the Department of Health (nor do they reflect Government policy).

Preface

The Annual Report of drug-related deaths in the United Kingdom and the six-monthly surveillance report published by the *national programme* on Substance Abuse Deaths (np-SAD) is used by universities, the UK Government, national and international agencies as an indicator of the extent and nature of drug problems and misuse, and makes a contribution towards the prevention of substance abuse problems.

The Programme could not achieve its goals and objectives without the collaboration and co-operation of coroners and their officers. It is important to recognise that their collaboration has been on a voluntary basis and it is the fundamental reason for its success. We would like to thank them all for their active participation.

I am particularly pleased to report on continuing participation of coroners in Guernsey, Jersey and the Isle of Man, and of the procurator fiscal for Dumbarton in Scotland. Again this year we are also grateful to the Scottish Crime and Drug Enforcement Agency for providing information on drug-related deaths reported to the police in Scotland, and to the Northern Ireland Statistics and Research Agency for information on drug-related poisonings from the General Mortality Register. The new Coroners Service for Northern Ireland has commenced supplying data following a gap of three years without any input from coroners in the Province. We welcome this vital contribution. Their contributions are precious as we aim to maintain a UK-wide reporting system.

The findings indicate an increase in drug-related deaths during 2006 in the United Kingdom as a whole, following the decrease reported for 2005. However, the number of np-SAD cases notified (primarily for England and Wales) shows a slight decline. Whilst this is good news, these differences underline the fact that further vigilance and constant monitoring of the drug-related fatalities situation is essential.

As in previous years, the statistics in this report are intended to inform authorities at the local, regional and national levels, as well as health professionals and the general public, about the serious consequences of drug abuse, especially polydrug use. The report also provides a number of indicators of drug abuse patterns, trends and early warnings on emerging drug problems so that appropriate and timely action can be taken.

We would like to express our thanks to the Department of Health for their continued support for this very important programme.

Professor A. Hamid Ghodse
Director
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Acknowledgements

We are grateful to the coroners listed below, their deputies, officers and assistants, for providing the information in this report. We apologise if we have inadvertently omitted anyone. This list may differ from the list of jurisdictions given in Appendix 1 due to the fact that many jurisdictions are being merged as coroners retire, and in anticipation of the expected re-structuring of the Coroners' Service in England and Wales. We wish all those who have recently retired all the best for the future, and thank them for supporting the surveillance work of the np-SAD. We are also indebted to the Scottish Crime and Drug Enforcement Agency and the Northern Ireland Statistics and Research Agency for the provision of data relating to their respective countries. We are very grateful to our colleague Christine Goodair for her help in preparing this publication.

J R H Adeley, Preston & West Lancashire	M S Howells, Pembrokeshire
R J Allen, Wolverhampton	R A Hulett, Buckinghamshire
E Armstrong, North Tyneside	C W Johnson, Wirral
W J Armstrong, Norwich & Central Norfolk	M C Johnston, West Dorset
I Arrow, Torbay & South Devon, Isles of Scilly, Plymouth & South Devon*	T Kelly, Northern Derbyshire (formerly Scarsdale and High Peak)
P G Ashworth, Derby & South Derbyshire	T Kirkman, Rutland & North Leicestershire
R D Atkinson, West Lincolnshire	P A Knapman, London - Inner West
J S Atkinson, North Lincolnshire & Grimsby	W R Knowles, Kings Lynn & West Norfolk
R Balmain, Black Country	J Leckey, Northern Ireland
C M Beasley-Murray, Essex & Thurrock	J Leeming, Greater Manchester - West
D T Bowen, Gwent	D C Masters, Wiltshire & Swindon
A M Bradley, Hampshire – North East	J A Matthews, Isle of Wight
P L Brunton, Ceredigion	P Matthews, City of London
M J C Burgess, Surrey, the Queen's Household	I G McCreath, North Northumberland
E T Carlyon, Cornwall	N Meadows, Greater Manchester - Central
T Carney, Gateshead & South Tyneside	D Mitford, Newcastle upon Tyne
N D Chapman, Nottinghamshire	D S Morris, Bedfordshire & Luton, South & West Cambridgeshire
M F Coker, Warwickshire	W R Morris, North & East Cambridgeshire
R H G Corner, Milton Keynes	T M Moyle, Isle of Man
A K Cotter, Birmingham and Solihull	S Nelson, Greater Manchester - North
A R Craze, East Sussex	M D Oakley, North Yorkshire - Eastern
A C Crickmore, Gloucestershire	D I Osborne, North East Cumbria
P de Gruchy, Jersey	D J Osborne, Neath & Port Talbot
P J Dean, Southend & South East Essex, Greater Suffolk, Lowestoft (both now Suffolk)	W J Owen, Carmarthenshire
W F G Dolman, Northern London	R N Palmer, Southern London
C C Donnelly, Argyll & Clyde at Dumbarton	S Payne, Bournemouth, Poole & East Dorset
C W M Donnelly, Hartlepool	A Pember, Northamptonshire
P Dorey, Guernsey	J S Pollard, Greater Manchester - South
C P Dorries, South Yorkshire – Western	D Pritchard-Jones, North West Wales
E A Earland, Exeter and Greater Devon	A J A Rebello, Liverpool
J P Ellery, Mid & North West Shropshire	H R Redman, Central & South East Kent
G L Fell, North Yorkshire – Western	A S Reid, London - Inner North
S P G Fisher, Louth & Spilsby	N L Rheinberg, Cheshire, Halton & Warrington
P E A Forrest, Avon	P Rogers, Swansea
N G Gardiner, Oxfordshire	M R Rose, West Somerset
M T Gwynne, Wrekin	V F Round, Worcestershire
A A Haigh, S Staffordshire	
D Halpern, Herefordshire	
V Hamilton-Deeley, Brighton & Hove	
M Hassell, Cardiff & Vale of Glamorgan	
D Hinchliff, West Yorkshire – Eastern	
A V Hind, Blackpool & the Fylde	
E S Hooper, South Yorkshire – Eastern	
D C Horsley, Portsmouth & South East Hampshire	

G S Ryall, Peterborough, Stamford	J C Taylor, North & West Cumbria
J C Sampson, London - Inner South	M Taylor, Boston & Spalding
D R Sarginson, Coventry	R G Taylor, East Lancashire
G M Saul, East Riding & Hull	E G Thomas, Hertfordshire
M J F Sheffield, Teesside	A M Thompson, Western London
G A Short, Hampshire Central	A Tweddle, Northern District of
A F T Sibcy, South Shropshire	Darlington & South Durham, North
M J H Singleton, Blackburn, Hyndburn & Ribble	Durham
Valley	P M Walters, Bridgend & Glamorgan
I Smith, South Cumbria & Furness	Valleys
I S Smith, Stoke on Trent & North Staffordshire	R L I Whittaker, West Yorkshire -
R J Stone, West Sussex	Western
C K Sumner, Knowsley, St Helens & Sefton	G U Williams, Powys
R J Sykes, Mid Kent & Medway	T Williams, East Somerset
J M Symington, Leicester City & South	K S Wiseman, Southampton & New
Leicestershire*	Forest

* denotes data received too late for inclusion in this report.

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Key points

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- ◆ Notifications of 1,366 drug-related deaths occurring in 2006 were received by the Programme. A total of 104 coroners from 117 jurisdictions in England & Wales, as well as from Northern Ireland, the Channel Islands and Isle of Man, together with one Procurator Fiscal from Scotland, submitted information. The total number of drug-related deaths (DRDs) reported in 2006 indicates a decrease of about one per cent over the number reported for 2005 (1,382) in the previous Annual Report.
- ◆ When the figures derived from information provided by the Scottish Crime and Drug Enforcement Agency and the Northern Ireland Statistics and Research Agency are included, the total number of drug-related deaths (DRDs) reported in 2006 for the UK is 1,752. This represents an increase of about 7% over the number recorded by the same sources for 2005 (1,644).
- ◆ The demographic profile of fatalities reported to the np-SAD remains consistent with previous reports. The majority of cases were males (76%), under the age of 45 years (71%), and White (96%).
- ◆ The principal underlying cause(s) of death were: accidental poisoning (61%); intentional self-poisoning (13%); and poisoning of undetermined intent (16%).
- ◆ Opiates/opioids (i.e. heroin/morphine; methadone; other opiates/opioid analgesics), alone or in combination with other drugs, accounted for the majority (68%) of all np-SAD cases.
- ◆ Heroin/morphine alone or in combination with other drugs, accounted for the highest proportion (46%) of fatalities, a slight increase over the 2005 level of 44%.
- ◆ The highest rates of DRDs per 100,000 population aged 16 and over in 2006 were in Blackpool & the Fylde (19.4); Brighton & Hove (17.8); Western Cumbria (17.3); Jersey (12.3); Dumbarton (11.3); and Newcastle-upon-Tyne (10.1). Of these six areas, four (Western Cumbria; Jersey, Newcastle-upon-Tyne, and Blackpool & the Fylde) showed a significant increase over 2005, whilst one (Brighton & Hove) showed a significant decrease.
- ◆ The following jurisdictions reported significantly lower rates per 100,000 population aged 16 and over than in the previous year: Exeter & Greater Devon (8.8 to 4.5; from 42 to 22 cases); Northern London (4.7 to 2.7; from 49 to 29 cases); Norwich & Central Norfolk (5.2 to 2.9; from 25 to 10 cases); Northamptonshire (3.9 to 0.6; from 20 to 3 cases); West Yorkshire Eastern (6.3 to 4.7; from 53 to 40); Brighton & Hove (24.2 to 17.8; from 51 to 38 cases); Hertfordshire (3.5 to 2.3; from 29 to 19 cases; and East Riding & Hull (5.2 to 2.8; from 24 to 13 cases).
- ◆ The following jurisdictions reported significantly higher rates per 100,000 population aged 16 & over than in the previous year: Avon (1.3 to 2.3; from 11 to 19 cases); Western Cumbria (5.2 to 17.3; from 5 to 17 cases); Bournemouth, Poole & Eastern Dorset (3.8 to 7.6; from 15 to 30 cases); West Manchester (0.5 to 2.2; from 3 to 14 cases); Birmingham (1.9 to 4.4; from 18 to 41 cases); Blackpool & the Fylde (12.8 to 19.4; from 23 to 35 cases); Surrey (1.4 to 2.7; from 12 to 23 cases); Teesside (2.7 to 5.4; from 10 to 20 cases); and Newcastle-upon-Tyne (2.7 to 10.1; from 6 to 23 cases).
- ◆ The following perceptible changes were also observed:
 - The proportion of cases involving methadone increased from 12% to 17%; the number of such cases increased from 198 to 217 cases.
 - The proportion of cases involving alcohol-in-combination increased from 26% to 32%.
 - The proportion of cases involving heroin/morphine increased from 44% to 46%.

I Coroners – who they are and what they do

A coroner is an independent judicial officer. There is no single coroner system across England and Wales but rather there are separate individual office holders each responsible for the discharge of his/her duties in their specific district. He/she will be a lawyer (barrister or solicitor) or registered medical practitioner of not less than 5 years experience and will be appointed and subsequently funded and otherwise resourced by the local “relevant” council. However, the coroner is not an employee or officer of the council and can only be dismissed and/or disciplined by the Lord Chancellor.

There are approximately 112 coroners in England and Wales of whom about 31 are whole time. (The precise numbers are unclear because at any particular time, coroners’ districts may be re-aligned and amalgamated as individual office holders retire.) The remaining 81 are able to carry on their medical or legal practice when not engaged in their duties as coroner.

He/she is required to make inquiries (and, if need be, conduct “inquests”) on those reported to him/her whose bodies are (physically) lying in his/her district and where he/she has reason to suspect that the death was violent or was unnatural or sudden of unknown cause or in prison, even if the cause of death arose elsewhere than in the district.

The coroner is supported by a deputy coroner and one or more assistant deputies (the deputy and assistant deputies have the same professional qualification as the coroner). He/she is normally assisted by coroner’s officers (normally dedicated police civilians) and by the local police who make inquiries on his/her behalf.

The coroner is required to interpret and follow the law and carry out his/her duties accordingly. The law under which coroners principally work (Coroners Act 1988) was originally framed in the nineteenth century and has been re-enacted with modifications since. There are also rules of procedure (Coroners Rules 1984) that provide a structure for coroners when engaged in carrying through their duties.

Coroners are empowered on a case by case basis only. The law is quite specific on this. They are not empowered to carry out any *generic* inquiries and cannot impute evidence from one case into another to draw any “general” conclusions; that has to be left to others – hence the importance of various research and data collection projects (e.g., Cardiac and Drug Deaths) into which coroners “feed” information.

Most cases referred to coroners are resolved either by informal inquiries made by or on behalf of the coroner to clarify the manner of death or by the carrying out of a post-mortem examination. A coroner’s inquest is a limited inquiry, that is held in public to determine who the deceased person was and how, when and where he came by his death. The inquest is a non-adversarial process and is evidence based, that is, the coroner’s conclusions will be based upon the evidence heard or received. It may not address or decide matters of liability (that is criminal liability by a named person or civil liability).

The coroner is the only official who may order or direct that a body be subject to a post-mortem examination (including the taking of tissue and fluid samples for analysis) against the wishes of the family and/or next of kin, or who may order that a body be exhumed.

The post-mortem examination, made by a suitably qualified pathologist, will provide a report on the condition and health of the body of the deceased person at the time of death. Any disease process or trauma that fails to leave a discernible mark will go unidentified. Recent changes in the rules of procedure require that any tissue taken in the course of a post-mortem examination be either returned to the body of the deceased or disposed of in accordance with the wishes of the family or, with the consent of the family, be retained for teaching or training purposes.

A major reform of the way in which coroners work has been mooted for some time. Most recently, following the conviction of Harold Shipman in 2000, a number of inquiries were established with reports published in June and July 2003 (Home Office, 2003; Shipman Inquiry, 2003). There was a government

response in March 2004 (Home Office 2004) and the House of Commons Constitutional Affairs Select Committee also addressed the matter in January-June 2006 (House of Commons, 2006). A draft Parliamentary bill was also published and legislation may follow in the next year or two (DCA, 2006).

Although the reforms suggested in the reports were for far-reaching organisational changes, the measures now proposed

would result in coroners continuing to work as at present, appointed and funded on a local basis and the more limited changes being concentrated on the appointment of a Chief Coroner to provide leadership and some training and consistency in procedure as well as a simplified appeal structure.

Michael Burgess
H M Coroner for Surrey
Coroner of the Queen's Household

II Introduction

This report continues the series of annual reports published by the national programme on Substance Abuse Deaths (np-SAD).

The first part of the report takes the form of an annual review of information (including nil returns) received from coroners in England & Wales, Northern Ireland, the Isle of Man and Channel Islands, as well as the procurator fiscal for Dumbarton, the Scottish Crime and Drug Enforcement Agency (SCDEA), and the General Register Office for Northern Ireland (GRONI) via the Northern Ireland Statistics and Research Agency, on 1,752 drug-related deaths that actually occurred in 2006. Since there are differences in legal and coronial systems, data collection methods, and database structures, it is only possible to examine some aspects of drug-related deaths at a UK level. The first part then goes on to examine in full those deaths reported to the np-SAD using their data collection forms. Since the time lapse between the date of death and the conclusion of inquest varies considerably from case to case, there will undoubtedly be further deaths in 2006 and deaths from additional coroners that are not covered by this report. However, these cases will be analysed in future reports. Information is presented separately for deaths in Scotland (Annex AR6) and Northern Ireland (Annex AR7).

The second part of the report relates to the surveillance period July to December 2006; this has not been previously published. These figures reflect inquests on drug-related deaths reported to np-SAD during that period and may include deaths that actually occurred outside that period. A further 238 inquest reports were

received after publication of the 2006 Annual Report on deaths that occurred during 2005 (Ghodse *et al*, 2006). These cases are also briefly analysed. In order to provide continuity with previous np-SAD surveillance reports, changes in the semi-annual death rates since January 2004 are also highlighted (see Annex AR3).

There may be higher rates in some areas compared with previous reporting periods because of Programme staff visiting coroners' offices to collect data themselves, or because of bilateral checks between the np-SAD and local confidential inquiries on case coverage. This has led to more cases being identified than hitherto, and subsequently being reported. This is one way in which the Programme attempts to monitor the quality and coverage of case reporting.

Recent studies on mortality in drug addicts

Several recent studies on drug abuse-related mortality have provided examples on how these studies may play a role in improving surveillance, informing treatment provision, and prevention of premature deaths. These are outlined as follows.

International studies

Jackson *et al* (2007) examined the impact of diabetes on mortality among 197 individuals with co-occurring psychotic and substance use disorders who participated in a randomised controlled study of integrated mental health and substance abuse treatment. Of individuals with co-occurring psychotic and substance use

disorders, 21% had evidence of diabetes. Over a 12-year period, 41% of diabetes-positive patients died compared to 10% of diabetes-negative patients.

Wysowski (2007) examined the drugs/drug classes associated with the greatest numbers of deaths in the US that might be considered as possible targets for prevention. The focus of this analysis of US vital statistics was prescription drugs. Examination of relevant ICD-10 codes revealed that a total of 25,031 deaths occurred in 2003, where a prescription drug was the underlying cause of death. This was a 55% increase over that in 1999 (16,135). Among the codes associated with specified drug classes, poisonings and accidental poisonings involving narcotics, hallucinogens, psychoactive substances and opioids (other than opium and heroin) were associated with the largest numbers of deaths. Drug-related codes associated with the largest percentage increases in deaths between 1999 and 2003 included poisoning due to methadone (275%); poisoning by other and unspecified antidepressants (primarily selective serotonin reuptake inhibitors) [130%]; and poisoning by psychostimulants with potential for abuse (amphetamines and drugs for attention deficit hyperactivity disorder) [117%].

A longitudinal, 33-year prospective study of a cohort of 581 male heroin addicts in California revealed that the average years of potential life lost (YPLL) before age 65 in this cohort was 18.3 years (SD=10.7) (Smyth et al, 2007). Of the total YPLL for the cohort, 22.3% of the years lost was due to heroin overdose, 14.0% due to chronic liver disease, and 10.2% to accidents. The total YPLL and YPLL by death cause in addict cohort were significantly higher than that of the general US population. The YPLL among African Americans was significantly lower than that among Whites or Hispanics.

Date and cause of death in 470 adults without primary medical care were followed up over a period of almost 4 years after detailed clinical assessment following detoxification (Saitz et al, 2007). At the end of this period 27 (6%) subjects died. Median age at death was 39 years. Causes of death included: poisoning by any substance (40.9% of deaths), trauma (13%), cardiovascular disease (13.6%),

and exposure to cold (9.1%). The age adjusted mortality rate was 4.4 times that of the general population in the same city. Among these individuals without primary medical care during detoxification, risk factors associated with death were drug of choice heroin, hazard ratio (HR) 6.9; alcohol (HR 3.7 compared to cocaine); past suicide attempt (HR 2.1); persistent homelessness (HR 2.4); and history of any chronic medical illness (HR 2.1). Receipt of primary care was not significantly associated with death (HR 0.85).

An examination of Massachusetts death files for 1990-2003 showed that opioid-related fatal poisoning rates increased by 529% over a 14-year period from 1.4 per 100,000 in 1990 to 8.8 per 100,000 in 2003 (Fernandez et al, 2006). The proportion of total poisoning deaths associated with opioids rose from 28% in 1990 to 69% in 2003.

Data from the New York City Office of the Chief Medical Examiner (OCME) on all fatal drug overdoses involving cocaine and/or opiates that occurred between 1990-2000 (n = 8,774) were classified into three mutually exclusive groups (cocaine only; opiates-only; cocaine and opiates). Risk factors for accidental overdose were examined in the three groups and compared using multinomial logistic regression (Bernstein et al, 2007). Overall, among decedents aged 15-64 years, 2,392 (27.3%) were attributed to cocaine only and 2,825 (32.2%) were attributed to opiates-only. During the period studied, the percentage of drug overdose deaths attributed to cocaine only fell from 29.2% to 23.6% while the percentage of overdose deaths attributed to opiates-only rose from 30.6% to 40.1%. Compared to New Yorkers who fatally overdosed from opiates-only, fatal overdose attributed to cocaine-only was associated with being male (Odds Ratio (OR) = 0.71), Black (OR = 4.73) or Hispanic (OR = 1.51), an overdose outside of a residence or building (OR = 1.34), having alcohol detected at autopsy (OR = 0.50) and older age (55-64) (OR = 2.53). The authors argue that as interventions to prevent fatal overdose become more targeted and drug specific, understanding the different populations at risk for different drug-related overdoses will become more critical.

An autopsy study conducted in the State of Florida in 2006 identified 7,741 cases where one or more drugs was involved (FDLE, 2007). The three most commonly mentioned substances were alcohol (3,698), cocaine (2,052) and benzodiazepines (1,987). The drugs that caused most deaths were: cocaine, methadone, benzodiazepines, oxycodone, alprazolam, ethyl alcohol, hydrocodone, and morphine. The four most lethal drugs (i.e. where more than 50% were caused by the drug when the drug was found) were: heroin (81.3%), methadone (73.5%), fentanyl (59.9%), and oxycodone (53.7%). Prescription drugs continued to be found (at both lethal and non-lethal levels) more often than illicit drugs. MDMA and MDA involvement more than doubled between 2005 and 2006, whilst cocaine reached its highest level ever. There were some decreases in mentions of heroin and morphine, propoxyphene, tramadol, alcohol and benzodiazepines.

Gibson and Degenhardt (2007) identified 32 oral naltrexone, one buprenorphine and 282 methadone-related deaths in national Australian coronial records. Mortality rates in the highest risk period in deaths per 100 person-years were 22.1 (95% CI = 14.6 - 32.2) for oral naltrexone following treatment cessation and 3.0 (2.3 - 3.9) for methadone during treatment induction. Rates in the lowest risk period in deaths per 100 person-years were 1.0 (0.3 - 2.2) during oral naltrexone treatment and 0.34 (0.3 - 0.4) during post-induction methadone treatment. The relative risk of death for oral naltrexone subjects was 7.4 times (high-risk period, $p < 0.0001$) or 2.8 times (low-risk period, $p = 0.055$) that of methadone subjects. This is the first comparison of mortality associated with these three pharmacotherapies for treating opioid dependence.

Buprenorphine is available in Singapore as a substitution treatment for opioid dependence since 2002. Between September 2003 and December 2004 21 cases where buprenorphine was detected in post-mortem blood and/or urine samples were identified (Lai et al, 2006). Eighteen were sudden deaths. There were two fatal falls from height and one death by hanging. All subjects were male. The age range was 24-48 years. The mean age of the cases was 35 years. Nineteen cases showed concurrent abuse of

buprenorphine and benzodiazepines, (diazepam was most common, followed by nitrazepam and midazolam). The availability of buprenorphine as substitution therapy in Singapore is associated with an increase in buprenorphine-related deaths. The danger of co-abuse of buprenorphine and benzodiazepines is highlighted by the authors.

Paramethoxyamphetamine (PMA) and paramethoxymethamphetamine (PMMA) are methoxylated phenylethylamine derivatives that have been banned in Taiwan since December 2005. The case history and pathological and toxicological findings of eight recent PMMA fatalities were investigated by Lin et al (2007). The deceased were predominately male (7/8) and the mean age was 18.9 +/- 4.4 years (Range: 14-25). Other drugs, such as MDA, MDMA, ketamine, norketamine, hydroxymidazolam, methamphetamine, and pentobarbital, were also found in these cases.

European studies

Swedish forensic pathologists examined 743 drug abusers who died in 2002-3 (Jönsson et al, 2007). Toxicological analyses were carried out in 99% (736/743) and illicit drugs were detected in 70% (514/736) of these cases. On average, about 4 substances (legal or illegal) were found per case. The most common substances were alcohol and morphine, detected in 43% and 35% of the cases, respectively. In total, 50% died of poisoning, whereas only 22% died of natural causes. Death was considered to be directly or indirectly due to drug abuse in 47% of cases.

Tramadol is an extensively used centrally acting analgesic, often considered a safe drug devoid of many serious adverse effects of traditional opioids. However, toxicity and the abuse potential of tramadol have recently been reported. Tjäderborn et al (2007) examined fatal unintentional tramadol intoxications among Swedish forensic autopsy cases between 1995 and 2005. All fatal intoxications were selected, in which toxic concentrations of tramadol (>1µg/g femoral blood) had been detected, and where the forensic pathologist considered the intoxication unintentional and the fatal outcome at

least partly explained by tramadol. A total of 17 cases (11 males and 6 females) of fatal unintentional tramadol intoxications were identified. The median age of the victims was 44 years (range 18-78 years) and the median tramadol concentration was 2.0µg/g (range 1.1-12.0µg/g). Intoxication with multiple drugs was considered the cause of death in 10 (59%) cases. However, in 7 cases tramadol was the only substance present in toxic concentrations. A history of substance abuse was identified in 14 (82%) subjects and a present tramadol abuse in 8 (47%). These results suggest that fatal intoxication with tramadol may occur unintentionally and that subjects with a history of substance abuse may be at risk. Precaution is therefore warranted when prescribing tramadol to such patients.

Johansen et al (2006) examined 2,996 autopsy records on fatal poisonings in eastern Denmark. Of these autopsies, 694 cases were drug addicts, in whom 497 fatal overdoses were detected, while in the remaining 2,302 cases of non-addicts, 443 fatal poisonings were determined. Morphine (heroin) and methadone were the main causes of death among the fatal poisonings of drug addicts, accounting for 90% of the cases. The fatal poisonings among non-addicts were due mainly to medications (73% of the cases); 13% were due to carbon monoxide and/or cyanide poisoning, and 12% were due to acute ethanol poisoning.. The most frequently occurring drugs involved in fatal poisonings in eastern Denmark from 1979 to 2002 were morphine, methadone, ethanol and carbon monoxide/cyanide. The frequency of methadone mentions increased over the period of study.

A nationally representative German sample of 2,694 opioid dependent patients in substitution treatment (either with methadone or buprenorphine at baseline) was monitored over a 12-month period (Soyka et al, 2006). The overall mortality rate was 1.04% (28 patients). Eleven (0.4%) of these deaths are due to fatal intoxication. Three patients (0.1%) died of human immunodeficiency virus/acquired immunodeficiency syndrome, and 3 (0.1%) committed suicide... The mortality rate of approximately 1% is consistent with previous findings of mortality rates in treatment –seeking opiate addicts.

The GIZ-Nord Poison Centre in Göttingen, Germany examined 1421 fatalities due to poisoning from January 1996 until March 2003 (Schaper et al, 2006). In 79 cases, the lethal substance was a medical drug, mostly tricyclic antidepressants and cardiovascular drugs. Three groups of patients with a high risk of dying from intoxication were identified: (1) suicidal patients with access to tricyclic antidepressants or cardiovascular drugs, (2) immigrants from the former Soviet Union who mistake toxic German mushrooms for edible species, and (3) elderly, disorientated patients who ingest large amounts of soap or shampoo.

An assessment of the characteristics of acute poisoning deaths in the region of Epirus, north-west Greece, using toxicological data from all autopsies performed over the period 1998-2004 revealed that substances of abuse were implicated in 22/46 fatal poisoning cases (47.8%), and prescription drugs in 3 cases (6.5%) (Vougiouklakis et al, 2006). Stefanidou et al (2007) investigated drug-related deaths occurring in Greece and found that heroin, alone or in combination with other psychoactive substances was the main drug involved in these deaths (98.6%). Whilst there was a constant increase in heroin-related deaths from 1991-2001, the number has since stabilised. Cocaine and other drugs (both 0.7%) accounted for the remaining deaths.

The findings of the various international studies above are not dissimilar to those reported in np-SAD's annual reports. These studies provide evidence that should assist in guiding the development of meaningful and sustainable prevention programmes across Europe and beyond.

UK studies

The National Treatment Agency (NTA) has recently published a series of studies of drug-related deaths and methods of investigating them. Oliver et al (2007a) used a matched case-control design to estimate the relative risk of fatal opioid overdose associated with benzodiazepine and cocaine use. A group of individuals who died from a heroin overdose (the cases) were matched on age and gender to a similar group of living heroin users (the controls). They then compared each pair's recent use of benzodiazepines and

cocaine using urinalysis data. A parallel study was conducted for methadone overdose fatalities. Three hundred and fifty heroin-related cases were randomly selected, together with all 260 methadone-related ones, from a database held by the University of Sheffield containing toxicological findings from around 1,300 opioid-related deaths occurring throughout England and Wales during 1991–2004. Two control groups were obtained from the Sheffield Primary Care Clinic for Drug Dependence (PCC). The control group for the heroin overdose fatalities were patients who had recently been referred for assessment, while the control group for the methadone overdose cases were a group of methadone maintenance patients who had been in treatment for at least three months. The findings support the status of benzodiazepine use as a significant risk factor for opioid overdose, especially for methadone-related death in which a near ten times increase in risk of fatal overdose was observed. Benzodiazepines appear to have the potential, in terms of pharmacological interaction, of increasing the respiratory depressant effects of opioids. The use of cocaine by opioid-dependent individuals is widespread and has previously been associated with poorer treatment outcomes, more chaotic drug use and more severe psychopathologies. Despite this, positive cocaine detections are, in comparative terms, rarely seen in fatal opioid overdoses.

In another study, Oliver et al (2007b) examined 15,000 toxicology reports produced by the Department of Clinical Chemistry at the Royal Hallamshire Hospital Sheffield for various coroners throughout England and Wales, covering the period between 1991 and 2004. A database search resulted in 1,586 potential heroin cases and 553 potential methadone cases. Levels of methadone and heroin in the blood, along with levels of associated drugs, were extracted. Alcohol was the most commonly detected substance in heroin-related fatalities, found in approximately 50% of cases, followed by diazepam (34%) and temazepam (13%). Over 75% of heroin fatalities involved one or more of these substances, with 37% involving at least one benzodiazepine. During the last ten years this pattern has remained fairly stable with the exception of temazepam,

which after peaking in 1995 has reduced in recent years. In cases of methadone overdose, diazepam was the most commonly detected drug (44%), followed by alcohol (33%), morphine (28%) and temazepam (21%).

Bloor (2007) led a study into the practice of supervised consumption of methadone in Staffordshire and Shropshire, exploring the beliefs and attitudes of professionals involved and also those of services. All respondent groups believed supervised methadone reduced the amount of illicit methadone. There was no consensus on the effectiveness of supervised methadone in reducing drug-related deaths other than those directly related to methadone. The majority of users saw supervised methadone in a positive way. Data from Staffordshire and Shropshire showed that, in the 3 years since introduction of supervised methadone, there have been no methadone-related deaths in the treatment population, compared to four in the three years prior to supervised methadone and ten in the three years prior to that. The National Programme on Substance Abuse Deaths (np-SAD) database was used to provide data on deaths for the North Staffordshire and Shropshire areas. The available data for 1999 to 2003 did not show any fall in drug-related deaths following the introduction of supervised methadone. Analysis of the deaths due to drug toxicity in patients known to treatment services in Staffordshire and Shropshire showed that the majority were males (93 per cent) and that the mean age of the group at death was 27.6 years. Deaths related to methadone were more likely to occur at weekends (42.8 per cent) compared with death from other drugs (22.7 per cent).

Morgan et al (2006a) examined the relationship between fatal poisonings in England and Wales from heroin and methadone; seizures of illicit heroin and diverted methadone; methadone prescriptions and treatment provision between 1993 and 2004. Direct age-standardised mortality rates for males were similar for both drugs, increasing from approximately 5 to 15 per million. Mortality rates for heroin continued to increase until 2000, subsequently decreasing from 30 to 20 per million by 2003, and rising again to 24 per million in 2004. In contrast, mortality rates for

methadone decreased between 1997 and 2004 to just above 1993 levels. Among females the mortality rate for both drugs was lower than for males throughout the study period, remaining relatively stable. Methadone deaths per 1000 patient years remained similar between 1993 and 1997, after which they fell by three quarters. For both heroin/morphine and methadone, deaths were strongly associated with seizures.

Morgan et al (2006b) examined the daily pattern of deaths in 3,098 cases in England and Wales between 1993 and 2003 where methadone was mentioned on the coroner's certificate of death registration after inquest. Initially, there was a marked excess of deaths occurring on Saturdays. The rate of decline from 1997 was greatest for deaths occurring on Saturdays. As a result, the Saturday peak disappeared.

A recent development in England and Wales is the change in fatal poisoning coding undertaken by the Office for National Statistics (ONS) back to presenting statistics on deaths related to drug poisoning back to year of registration. Consequently, the statistics have been updated and therefore supersede all those previously published by ONS; the patterns evident in previous years still pertain. The number of deaths related to drug poisoning for males rose in 2005 to 1,887 although this figure is still lower than the highest recorded number of 2,143 in 2001. The number of deaths for females shows no real trend over time. Consequently, the gap between males and females increased, with twice as many deaths for males compared to females in 2005.

Schifano et al (2007) recently commented on the pharmacological, epidemiological, clinical and social issues related to smoking methamphetamine as opposed to either its injection or ingestion. Furthermore, they provided data related to amphetamine/ methamphetamine consumption, treatment demand, seizures, related offences and deaths in the UK (1990-2002). Peak rates for most indicators were reached at the end of the 1990s, declining in the following years. The only indicator which did not show a decline was the number of deaths, an issue possibly related to a more general increase in stimulant death rates recently observed in the UK.

Hickman et al (2007) carried out an audit of 148 drug overdose deaths (involving heroin, methadone, dihydrocodeine, cocaine, amphetamine or MDMA) investigated by London coroners during 2003. Poly- or multiple drug use was detected in the majority of deaths (with at least 69 different combinations), including 66% for heroin and 42% for cocaine. Six categories of death were identified involving an opiate (100, 68%); cocaine (14, 9%); other controlled drug (five, 3%); mixed drug overdose (18, 12%); other prescribed drug (five, 3%); and other causes (seven, 5%). A witness was present and the death was not instantaneous in 92 (61%) cases, although evidence in the coronial file suggested that in the majority of cases the overdose went unnoticed until too late to intervene. In all, 15 (one in 10) of the deceased were released from prison within 3 months of death; and 37 (one in four) were reported to be receiving a methadone prescription.

III Drug-related deaths in the United Kingdom

1. Demography

Notifications of 1,366 drug-related deaths occurring in 2006 were received by the np-SAD. Responses (including nil returns) were received from a total of 104 out of 117 coroners' jurisdictions in England and Wales. This is a coverage rate of about 89%. In addition, the coroners in Northern Ireland, Guernsey, Jersey and the Isle of Man contributed data analysed in this Annual Report, as well as one Procurator Fiscal in Scotland.

Furthermore, the SCDEA and the NISRA provided data reported to them for deaths in the period under examination. These deaths do not represent the full number of drug-related deaths in the UK since not all deaths are reported to the SCDEA (see next paragraph), and further inquests remain to be completed in England, Wales and Northern Ireland on deaths that occurred in 2006.

Deaths reported to the SCDEA by Scottish police forces are those which meet the definition used by the Association of Chief Police Officers (Scotland) – “where there is prima facie evidence of a fatal overdose of controlled drugs. Such evidence would be recent drug misuse, for example controlled drugs and/or a hypodermic syringe found in close proximity to the body and/or the person is known to the police as a drug misuser although not necessarily a notified addict.” Thus, most suicides in Scotland will be excluded.

Table 1, together with Figures 1-3, takes into account the data from the np-SAD as well as the SCDEA and the NISRA. The total thus obtained for the UK is 1,752 drug-related deaths in 2006, compared to 1,644 based on reports received from the same sources during the same period for 2005. This represents an increase of 6.6%.

The majority (77%) of the cases were male (Table 1). However, this proportion varied from 46% in Northern Ireland to 81% in Scotland.

Location of death was reported in all but two cases. Overall, about 74% died at a defined residential address (i.e. the deceased's home address or other private residential address), 18% died in hospital and 8% died elsewhere (e.g. in a public place). The proportion dying at a defined residential address ranged from 70% for np-SAD cases to 90% in Scotland and 100% in Northern Ireland. The corresponding proportions for deaths in hospital ranged from 23% for np-SAD cases to 3% in Scotland and 0% in Northern Ireland.

The mean age at death was 38.4 years for all sources combined. However, there were differences between the individual datasets: np-SAD 39.6 years; SCDEA 32.8 years; and NISRA 44.1 years. There were also differences in the mean ages broken down by gender. Whereas the overall average age for males was 36.4 years compared to 45.0 for females (a difference of 9 years), the mean age for males in Scotland (32.7 years) was only slightly less than that for females (33.6 years). However, in Northern Ireland the gap was considerably greater; the mean age for males was 37.9 years compared to 49.3 years for females. Similar patterns are exhibited by the median age and semi-interquartile ranges.

The above differences reflect distinctions in the nature and purpose of the three data sources, and the volumes of cases dealt with by them. These variations also illustrate the limitations on making comparisons between them. Further information for each of these registers is given below.

Table 1: Demographic variables for drug-related deaths, UK, 2006

Variable	Category	Number (%)
Total		1,752 (100.0)
Gender	Male	1,344 (76.7)
	Female	408 (23.3)
Age-group (years)	Under 15	0 (0.0)
	15-24	233 (13.3)
	25-34	548 (31.3)
	35-44	530 (30.3)
	45-54	265 (15.1)
	55-64	106 (6.1)
	Over 64	70 (4.0)
Location of death	Defined residential address	1,298 (74.1)
	Hospital	319 (18.2)
	Other	135 (7.7)

Figure 1: Drug-related deaths by age and gender, UK, 2006

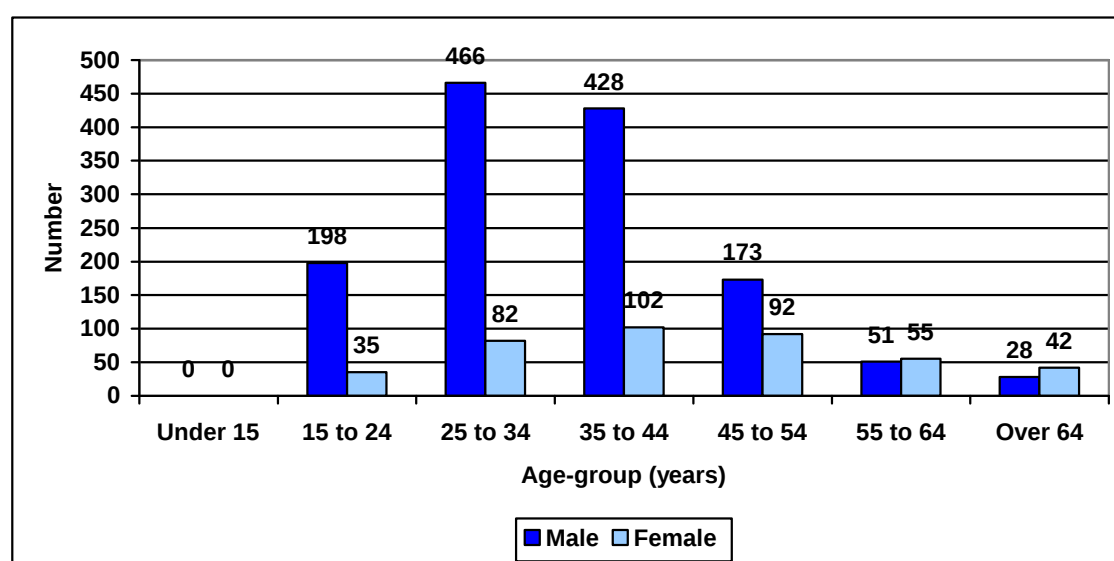
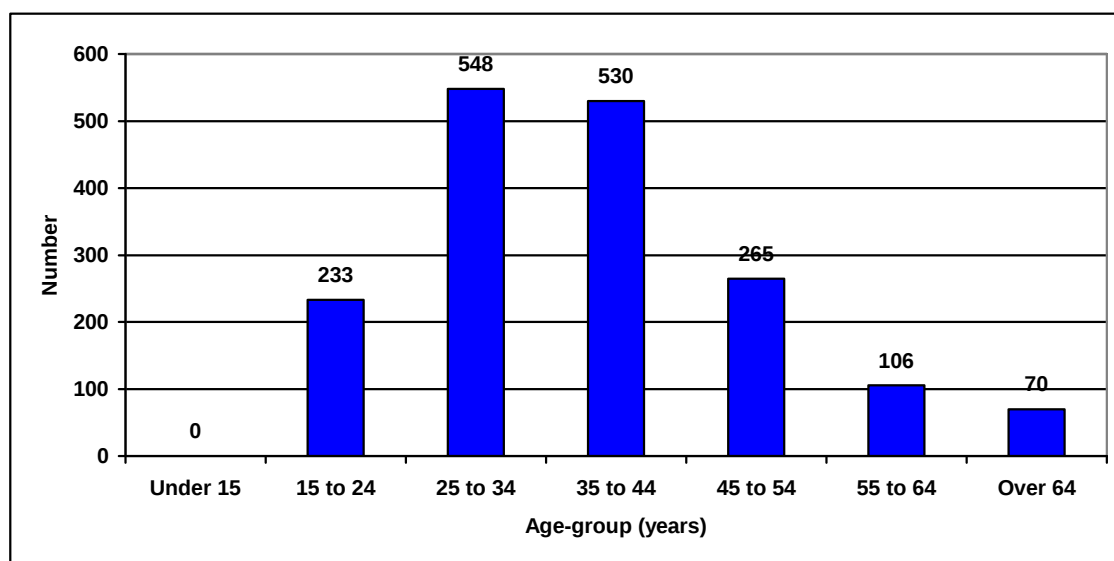
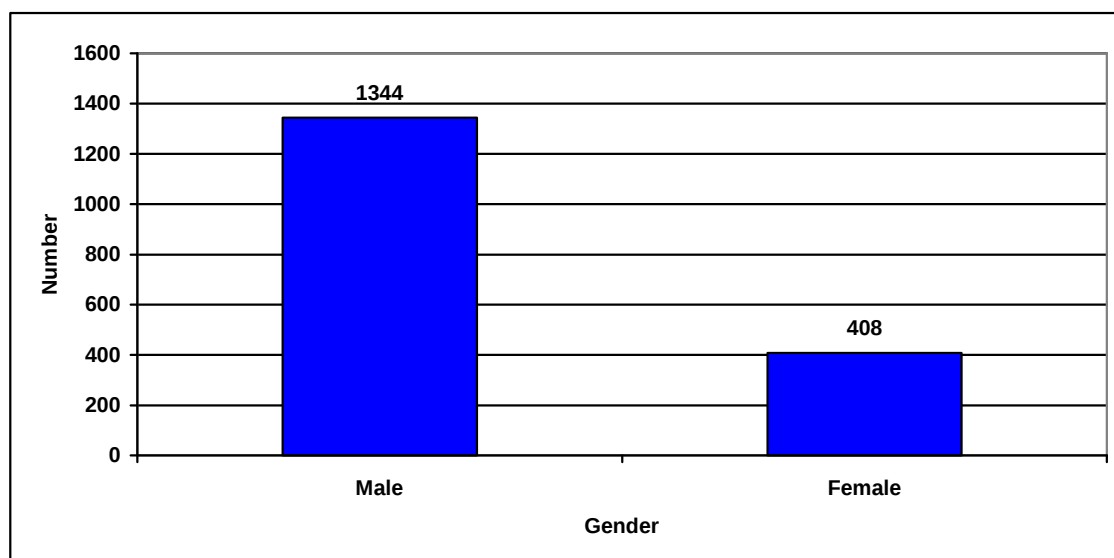


Figure 2: Drug-related deaths by age, UK, 2006**Figure 3: Drug-related deaths by gender, UK, 2006**

IV Profile of np-SAD cases

1. Demography

Notifications of 1,366 drug-related deaths occurring in 2006 were received by the np-SAD. Responses (including nil returns) were received from a total of 104 out of 117 coroners' jurisdictions in England and Wales. This is a coverage rate of about 89%. In addition, the coroners in Northern Ireland, Guernsey, Jersey and the Isle of Man contributed data analysed in this Annual Report, as well as one Procurator Fiscal in Scotland.

The majority (76%) of the cases were male (Table 2). The median age at death was 37.4 years (semi-interquartile range = 8.5) (Figures 4-6). The majority (71%) of cases were under 45 years. Where ethnicity was known, the majority were White (95.5%); the rest were Black (1.7%), Asian (1.2%), and Other (1.7%).

Table 2: Demographic variables for drug-related deaths, np-SAD cases, 2006

Variable	Category	Number (%)
Total		1,366 (100.0)
Gender	Male	1,041 (76.2)
	Female	325 (23.8)
Employment status	Unemployed	657 (48.1)
	Employed	447 (32.7)
	Childcare/houseperson	18 (1.3)
	Student	27 (2.0)
	Retired/sickness/invalidity	136 (10.0)
	Other	57 (4.2)
	Not known	78 (5.7)
Living arrangements	Alone	572 (41.9)
	With others	582 (42.6)
	No fixed abode	59 (4.3)
	Other	57 (4.2)
	Not known	96 (7.0)

2. Drug-related death rates (Annex AR2)

The jurisdictions in England and Wales reporting the highest annual drug-related death rates per 100,000 population aged 16 years and over were as follows: Blackpool & the Fylde (19.4); Brighton & Hove (17.8); Western Cumbria (17.3); and Newcastle-upon-Tyne (10.1).

3. Location of death

Location of death was reported in all but two cases. About 70% died at a defined residential address (i.e. the deceased's home address or other private residential address), 23% died in hospital and 8% died elsewhere (e.g. in a public place).

Figure 4: Drug-related deaths by age and gender, np-SAD cases, 2006

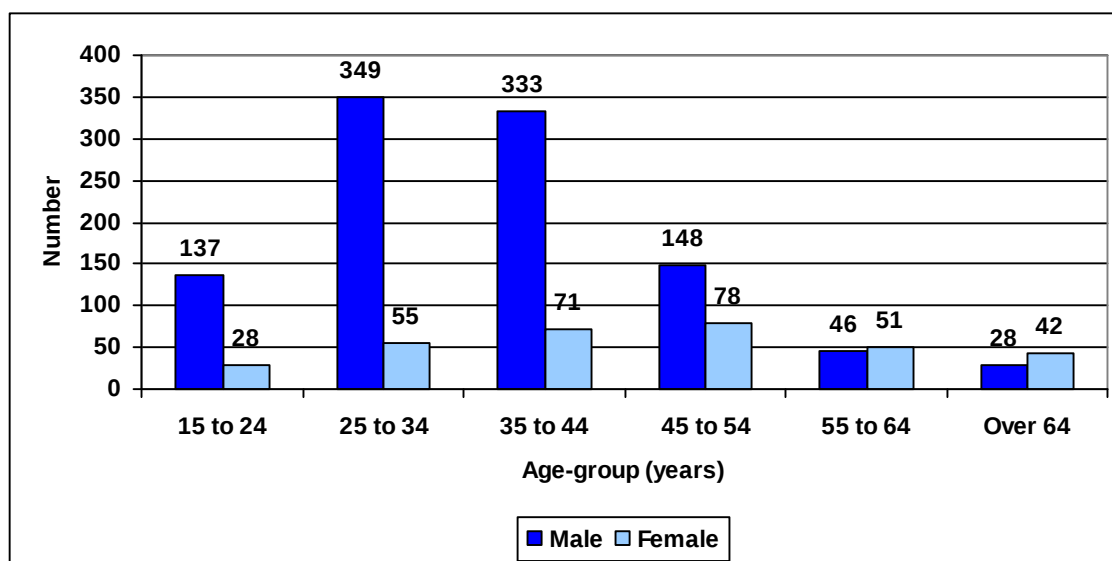


Figure 5: Drug-related deaths by age, np-SAD cases, 2006

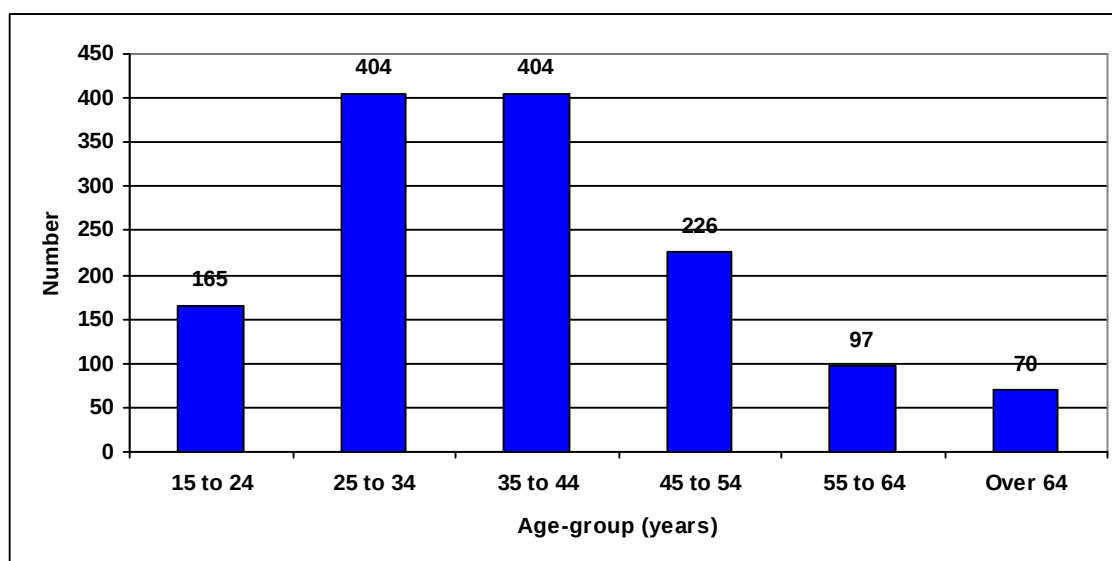
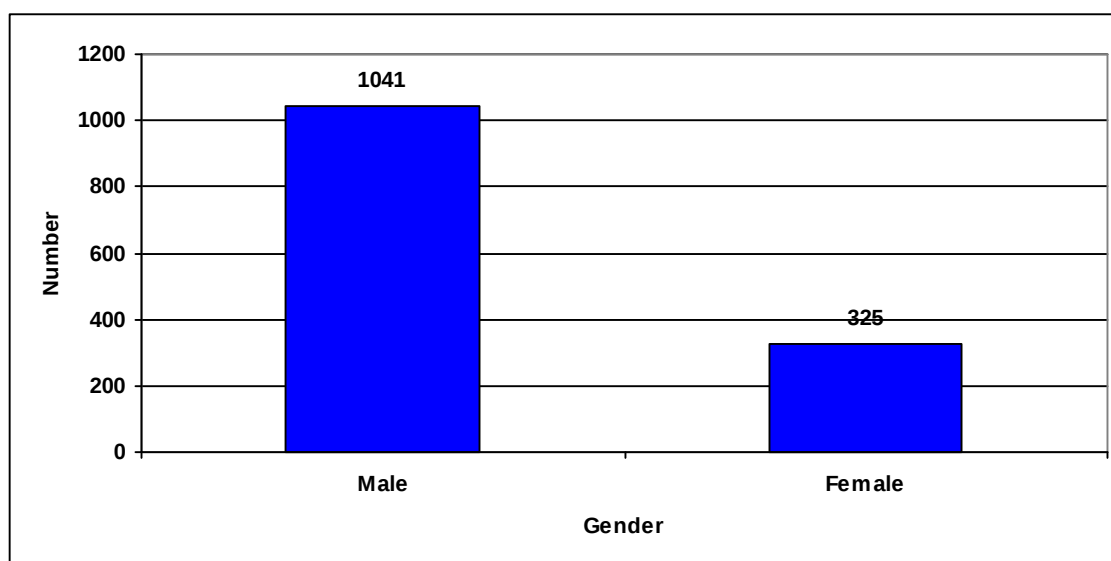


Figure 6: Drug-related deaths by gender, np-SAD cases, 2006

4. Underlying cause(s) of death (Annex AR1)

To enable comparison with various national and international datasets all causes of death have been coded according to the International Classification of Diseases (ICD-10). This is an international standard for the classification of diseases and health-related problems published by the World Health Organisation (1992). The proportions of ICD-10 categories of underlying cause(s) of death were as follows:

- Accidental poisoning (X40-X47): 60.5%
- Intentional self-poisoning (X60-X67): 13.1%
- Poisonings of undetermined intent (Y10-Y14): 16.4%
- Other (e.g. natural causes, drowning, hanging, unascertained): 10.0%

5. Manner of death

The 'intentionality' of deaths based on the coroner's verdict and/or other additional information employing ICD10 codes is inappropriate for informing interested parties as to whether certain categories of drug-related deaths can be prevented.

Whilst the 'cause' of death (as given in the preceding section) is concerned with the disease or injury responsible for the lethal sequence of events, the 'manner' of death explains how the cause of death arose, i.e. a

natural or violent death. In accordance with best international practice, the following categories for 'manner of death' have been adopted: natural, accidental, suicidal, homicidal, undetermined, and unclassified/not specified.

Verdicts of 'dependence on drugs' or 'non-dependent abuse of drugs' are regarded as 'accidental'. The 'manner of death' is derived from information such as the verdict or 'finding', history of drug misuse or dependence, post mortem drugs, and other information; and is based on the interpretation of the death by np-SAD and clinical presentation/profile of the individual case. The results of this process for 2006 cases are as follows:

- Natural: 2.4%
- Accidental: 64.7%
- Suicidal: 14.8%
- Homicidal: 0.0%
- Undetermined: 16.7%
- Unclassified/not specified: 1.4%

6. Substances implicated in death

6.1 All substances

Psychoactive drugs were not directly implicated in about 7% of cases (n = 100). Of the remaining 1,266 cases, the principal substances implicated were heroin/morphine (46%), alcohol in combination with other substances (32%), other opiates/opioid

analgesics (22%), anti-depressants (18%), methadone (17%), hypnotics/sedatives (15%); and cocaine (11%).

Figure 7 takes into account data where one of the following drugs was known to be implicated: alcohol, anti-depressants, cocaine, ecstasy-type drugs, heroin/morphine, hypnotics/sedatives, methadone, or other opiates/opioid analgesics.

6.2 Single substances

The following substances, as the sole implicated drug, accounted for 577 (44%) deaths: heroin/morphine (19%), other opiates/opioid analgesics (6%), anti-depressants (6%), methadone (6%), cocaine (2%), anti-psychotics (2%), amphetamines (1%), ecstasy-type drugs (1%), hypnotic/sedatives (1%), and cannabis (0.2%).

Table 3: Psychoactive substances implicated in death, np-SAD cases, 2006

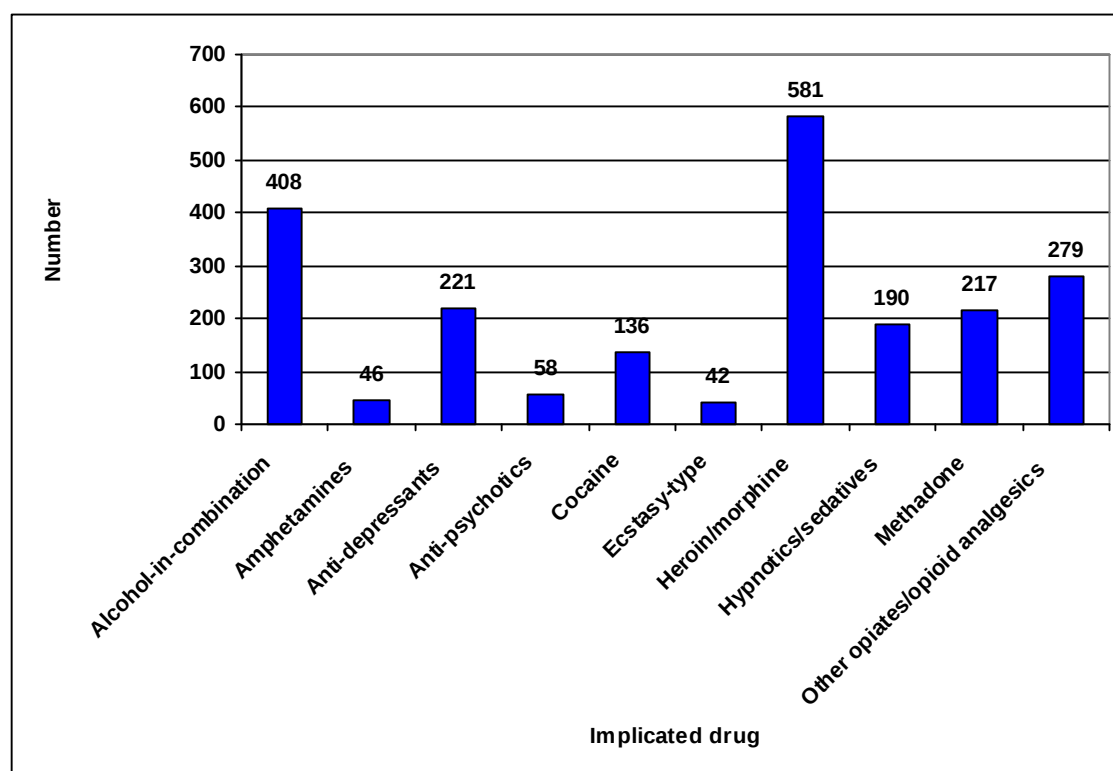
Drug category	Number (%) of cases where no other substance was implicated	Number (%) of cases where drug was implicated
Total	1,266 (100.0)	1,266 (100.0)
Alcohol	-	408 (32.2)
Amphetamines	14 (1.1)	46 (3.6)
Anti-depressants	69 (5.5)	221 (17.5)
Anti-epileptics	8 (0.6)	26 (2.1)
Anti-psychotics	20 (1.6)	58 (4.6)
Cannabis	2 (0.2)	25 (2.0)
Cocaine	30 (2.4)	136 (10.7)
Ecstasy-type drugs	16 (1.3)	42 (3.3)
GHB	1 (0.1)	7 (0.6)
Heroin/morphine	235 (18.6)	581 (45.9)
Hypnotic/sedatives	16 (1.3)	190 (15.0)
Methadone	74 (5.8)	217 (17.1)
Other opiates/opioid analgesics	71 (5.6)	279 (22.0)
Note: Column totals may sum to more than 100% since more than one substance may be implicated in a death.		

7. Prescribed psychoactive drugs (Table 4)

Altogether, 724 np-SAD cases were reported to be receiving prescribed psychoactive drugs at the time of their death. Within this group, prescribed drugs of the following

therapeutic drug classes were reported: anti-depressants (49%); hypnotic/sedatives (42%); other opiate/opioid analgesics (24%); anti-psychotics (19%) and methadone (15%). 'Polypharmacy', i.e. multiple prescriptions of psychoactive drugs, occurred in 70% of these cases.

Figure 7: Drug-related deaths by psychoactive drug implicated, np-SAD cases, 2006



V Associated risks

1. Prescribed psychoactive drugs (Table 4)

Of the 724 cases prescribed psychoactive drugs at the time of their death, 55% had those same drugs, alone or in combination with other drugs, implicated in their death.

1.1 Methadone

Methadone, alone and in combination with other drugs, was implicated in 217 cases. Of these, 70% may have obtained methadone from illicit sources, compared to 30% who were known to be receiving prescribed methadone prior to their death (Percentage ratio: PR = 2.4, 95% CI = 1.9 – 3.0).

Methadone alone was implicated in 74 cases. Of these, 62% may have obtained the drug from illicit sources, compared to 38% who were known to be receiving prescribed methadone, compared to (PR = 1.6, 95% CI = 1.2 – 2.3).

Overall, it appears that methadone-related deaths are more likely to arise from illicit than licit methadone.

1.2 Anti-depressants

Anti-depressants, alone and in combination with other drugs, were implicated in 221 cases. Of these, 70% were known to be receiving prescribed anti-depressants at the time of their death, compared to 30% who may have used drugs prescribed for others (PR = 2.3, 95% CI = 1.9 – 2.9).

Anti-depressants alone were implicated in 69 cases. Of these, 80% were known to be receiving prescribed anti-depressants, compared to 20% who may have used drugs prescribed for others (PR = 2.4, 95% CI = 2.4 – 6.4).

Those receiving prescribed anti-depressants were significantly more likely to have that class of drug implicated in their death, either in combination or as the sole drug, compared to those who had apparently used drugs prescribed to others.

Table 4: Prescribed psychoactive medication, np-SAD cases, 2006

Drug category	Number (%) of cases on prescribed psychoactive medication	Number (%) of cases where same drug was implicated in death
Total	724 (100.0)	
Amphetamines	0 (0.0)	0 (0.0)
Anti-depressants	352 (48.6)	155 (44.0)
Anti-epileptics	63 (8.7)	16 (25.4)
Anti-psychotics	135 (18.6)	36 (26.7)
Heroin/morphine	33 (4.6)	28 (84.8)
Hypnotic/sedatives	305 (42.1)	85 (27.9)
Methadone	109 (15.1)	64 (58.7)
Other opiates/opioid analgesics	171 (23.6)	93 (54.4)
Note: Column totals may sum to more than 100% since more than one substance may be prescribed to an individual and more than one substance may be implicated in a death.		

1.3 Other opiates/opioid analgesics

Other opiates/opioid analgesics (e.g. dihydrocodeine, dextropropoxyphene) alone and in combination with other drugs, were implicated in 277 cases. Of these, 66% may have obtained the drug by other means, compared to the 34% who were known to be receiving prescribed opiate/opioid analgesics prior to their death (PR = 2.0, 95% CI = 1.6 – 2.4).

Other opiate/opioid analgesics alone were implicated in 71 cases. Of these, the drugs were prescribed in 52% of cases, compared to being apparently obtained by other means in 48% of cases (PR = 1.1, 95% CI = 0.8 – 1.5).

1.4 Hypnotics/sedatives

Hypnotic/sedatives, alone and in combination with other drugs, were implicated in 189 cases. Of these, 55% may have obtained them illicitly, compared to the 45% who were known to be receiving a prescription for this class of drug (PR = 1.2, 95% CI = 1.0 – 1.5).

Sixteen cases had hypnotic/sedatives alone implicated in their death, of whom 12 (75%) had received the drug on prescription, compared to 4 (25%) who may have obtained it illicitly (PR = 3.0, 95% CI = 1.2 – 7.3).

In summary, there was a tendency that those prescribed hypnotics/ sedatives were more likely to have that class of drug implicated in fatality if only one substance was implicated.

2. Gender and underlying cause(s) of death

Males were significantly more likely than females to die of accidental poisoning (64.2% vs. 48.6%) (PR = 1.3, 95% CI = 1.2 – 1.5). Females, by contrast, were significantly more likely than males to die of intentional self-poisoning (24.0% vs. 9.7%) (PR = 2.5, 95% CI = 1.9 – 3.2), and poisoning of undetermined intent (20.3% vs. 14.8%) (PR = 1.3, 95% CI = 1.1 – 1.8).

3. Gender and manner of death

A similar pattern was revealed in respect of manner of death. Males were more likely than females to die an accidental death (68.9% vs. 51.4%) (PR = 1.3, 95% CI = 1.2 – 1.5). Conversely, females were more likely than males to die of suicide (24.9% vs. 11.6%) (PR = 2.1, 95% CI = 1.7 – 2.8), or a death where the manner was undetermined (20.3% vs. 15.6%) (PR = 1.3, 95% CI = 1.0 – 1.7).

4. Age and underlying cause(s) of death

Those aged less than 45 years were more likely than older cases to die of accidental poisoning (68.9% vs. 39.7%) (PR = 1.7, 95% CI = 1.5 – 2.0). Those aged 45 years or over, by contrast, were more likely than younger cases to die of intentional self-poisoning (26.0% vs. 10.3%) (PR = 3.3, 95% CI = 2.5 – 4.3), and poisoning of undetermined intent (22.1% vs. 13.7%) (PR = 1.6, 95% CI = 1.3 – 2.1).

5. Age and manner of death

Cases aged less than 45 years were more likely than older cases to die accidentally (73.4% vs. 43.3%) (PR = 1.7, 95% CI = 1.5 – 1.9). Conversely, those aged 45 years or

over were more likely than younger cases to die intentionally (28.5% vs. 9.2) (PR = 3.1, 95% CI = 2.4 – 4.0), or in a manner that was undetermined (23.7% vs. 13.9%) (PR = 1.7, 95% CI = 1.3 – 2.2).

Table 5: Age and psychoactive drug implicated in death, np-SAD cases, 2006

Age-group (years)	Number (%)	Drug category (alone or in combination) most frequently implicated in each age group
All ages	1,266 (100.0)	Heroin/morphine (45.7%)
15–24	153 (12.1)	Heroin/morphine (51.0%)
25–34	380 (30.0)	Heroin/morphine (58.7%)
35–44	373 (29.5)	Heroin/morphine (50.4%)
45–54	206 (16.3)	Alcohol-in-combination (34.5%)
55–64	91 (7.2)	Alcohol-in-combination (34.1%)
65 & over	63 (5.0)	Other opiates/opioid analgesics (52.4)

6. Age and drug implicated in death

In cases aged 15–44 years, heroin/morphine (54%) was the most frequently mentioned drug contributing to fatality. In those aged 45 years and over, other opiates/opioid analgesics (31.1%), anti-depressants (30.8%), and alcohol-in-combination (30.6%), were equally likely to be mentioned (Table 5).

Furthermore, there was a higher proportion of cases of drug-specific fatality among males compared to females in respect of amphetamines, cannabis, ecstasy-type drugs and GHB.

Among female cases, the most frequently mentioned drugs were: other opiates/opioid analgesics (33%); anti-depressants (32%); heroin/morphine (28%); alcohol-in-combination (26%); hypnotic/sedatives (16%); methadone (15%); and cocaine (8%).

7. Gender and drug implicated in death

The pattern of drug-specific fatality is somewhat different in male and female cases.

Among males, the most frequently mentioned drugs were: heroin/morphine (52%); alcohol-in-combination (34%); other opiates/opioid analgesics (19%); methadone (18%), hypnotic/sedatives (15%); anti-depressants (13%) and cocaine (12%).

VI Drug abuse/dependence

Cases reported to np-SAD with a history of drug abuse/dependence ($n = 724$) were compared to those without such a history ($n = 381$) on the following variables: demography, location of death, underlying cause(s) and manner of death. Two hundred and sixty-one np-SAD cases (19%) were reported as “not known” with respect to history of drug abuse/dependence. These cases were excluded from further analysis.

1. Demography

In comparison with non drug abusers (NDAs: 58.5%), drug abusers/dependents (DAs: 85.6%) were more likely to be male ($PR = 1.5$, 95% $CI = 1.3 - 1.6$) and less than 45 years of age, 84.5% compared to 47.8% ($PR = 1.8$, 95% $CI = 1.6 - 2.0$). The median age at death for DAs was 35.0 years (semi-interquartile range = 6.7), while that for NDAs was 46.0 years (semi-interquartile range = 12.6) (Mann-Whitney $U = 94482$, $p < 0.0005$).

2. Location of death

There was no significant difference between DAs and NDAs with respect to the location of their death. In both groups the majority died at home or in a defined residential address, although this proportion was higher amongst

NDAs (71.8% vs. 68.2%) ($PR = 1.0$, $CI = 1.0 - 1.1$). Hospital deaths accounted for a lower proportion of DA deaths (22.0%) than those amongst NDAs (24.3%) ($PR = 1.1$, $CI = 0.9 - 1.4$). A higher proportion of DAs (9.8%) died in temporary accommodation or in public places than NDAs (4.0%) ($PR = 2.5$, $CI = 1.4 - 4.3$).

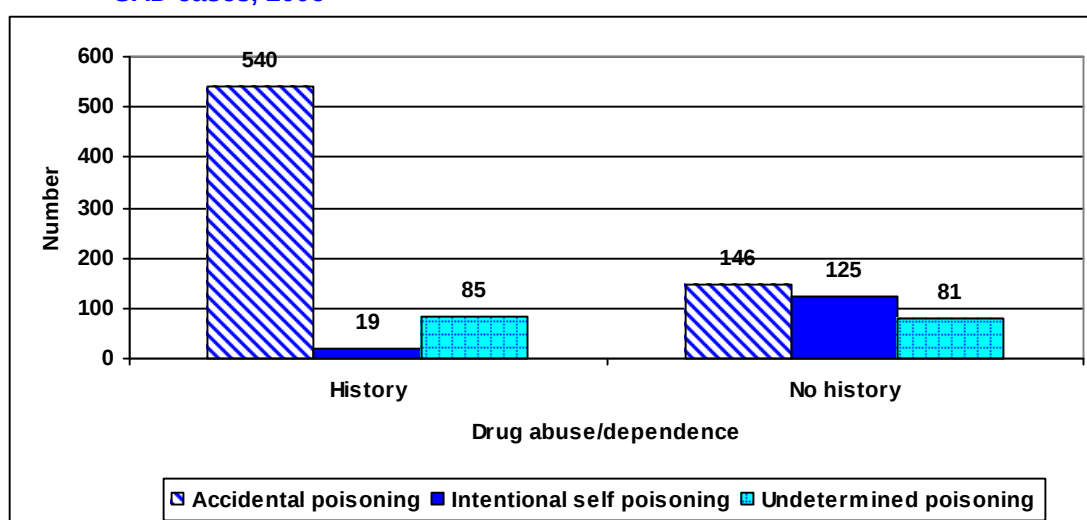
3. Underlying cause(s) of death

DAs were more likely than NDAs to die of accidental poisoning (74.6% vs. 38.3%) ($PR = 1.9$, 95% $CI = 1.7 - 2.2$) – Figure 8. NDAs, by contrast, were more likely than DAs to die of intentional self-poisoning (32.8% vs. 2.6%) ($PR = 12.5$, 95% $CI = 7.8 - 19.9$), and poisoning of undetermined intent (21.3% vs. 11.7%) ($PR = 1.8$, 95% $CI = 1.4 - 2.4$).

4. Manner of death

A similar pattern is exhibited with regard to manner of death. DAs were more likely than NDAs to die an accidental death (79.6% vs. 42.5%) ($PR = 1.9$, 95% $CI = 1.7 - 2.1$). Conversely, NDAs were more likely than DAs to die of suicide (33.9% vs. 3.9%) ($PR = 8.8$, 95% $CI = 5.9 - 12.9$), or a death where the manner was undetermined (20.5% vs. 12.3%) ($PR = 1.7$, 95% $CI = 1.3 - 2.2$).

Figure 8: Principal underlying cause(s) of death by drug abuse/dependence history, np-SAD cases, 2006



VII np-SAD drug-related deaths in 2005 reported in 2006/7

Profile of cases

A further 238 inquest reports were received from coroners in 2006/7 on deaths occurring in 2005, giving a total number of deaths in 2005 of 1,593. Demographic details and a summary of principal drugs implicated in death are presented below. The distribution of deaths according to coroners' jurisdictions is summarised in Annex AR2.

1. Demography

The majority of cases were male (75%). The median age at death was 36.8 years (semi-interquartile range – 8.8), with 74% being under the age of 45 years. Where ethnicity was known, 95.9% were White, 1.5% Black, 1.5% Asian, and 1.0% Other. Approximately 53% of cases were unemployed and 45% of cases were living with others at the time of their death (Table 6).

Table 6: Demographic variables, additional 2006 np-SAD cases

Variable	Category	Number (%) of np-SAD cases in 2005 reported in 2006/7
Total		238 (100.0)
Gender	Male	179 (75.2)
	Female	59 (24.8)
Employment Status	Unemployed	127 (53.4)
	Employed	67 (28.2)
	Childcare/houseperson	5 (2.1)
	Student	12 (5.0)
	Retired/sickness/invalidity	16 (6.7)
	Other	2 (0.8)
	Not known	9 (3.8)
Living Arrangements	Alone	89 (37.4)
	With others	108 (45.4)
	No fixed abode	8 (3.4)
	Other	11 (4.6)
	Not known	22 (9.2)

2. Location of death

The majority of cases (61%) died at a defined residential address (e.g. the deceased's home address or other private residential address), 28% died in hospital and 11% died elsewhere (e.g. in a public place).

3. Underlying cause(s) of death

The proportions of ICD-10 categories of underlying cause of death were as follows:

- Accidental poisoning (X40-X47): 52.9%
- Intentional self-poisoning (X60-X67): 10.9%
- Poisoning of undetermined intent (Y10-Y14): 17.6%

- Other and unknown causes: 18.6%

4. Manner of death

The cause of death is considered to have arisen in these cases as follows:

- Natural: 4.2%
- Accidental: 63.9%
- Suicidal: 11.8%
- Homicidal: 0.4%
- Undetermined: 18.9%
- Unclassified/not specified: 0.8%

5. Substances implicated in death

The principal psychoactive substances implicated were: heroin/morphine (48%), alcohol in combination with other drugs

(32%), and other opiates/opioid analgesics (21%). Heroin/morphine as the sole implicated drug accounted for 22% of deaths, methadone 6%, opioid analgesics

4%, and anti-depressants for 3% of deaths. The breakdown of psychoactive substances implicated in death is presented in Table 7.

Table 7: Psychoactive substances implicated in death, additional 2005 np-SAD cases

Drug category	Number (%) of cases where no other substance implicated	Number (%) of cases where drug implicated
Total	198 (100.0)	198 (100.0)
Alcohol	-	63 (31.8)
Amphetamines	3 (1.5)	9 (4.5)
Anti-depressants	6 (3.0)	31 (15.7)
Anti-epileptics	2 (1.0)	5 (2.5)
Anti-psychotics	3 (1.5)	6 (3.0)
Cannabis	0 (0.0)	4 (2.0)
Cocaine	5 (2.5)	28 (14.1)
Ecstasy-type drugs	3 (1.5)	6 (0.3)
GHB	1 (0.5)	3 (1.5)
Heroin/morphine	43 (21.7)	95 (48.0)
Hypnotics/sedatives	1 (0.5)	35 (17.7)
Methadone	11 (5.6)	27 (13.6)
Other opiates/opioid analgesics	7 (3.5)	42 (21.2)

Note: Column totals may sum to more than 100% since more than one substance may be implicated in a death.

VIII Changes between 2005 and 2006

The following section compares deaths in 2006 with those that occurred in 2005. The sources of information are the same for both years, i.e. cases reported using the np-SAD data collection form. Figures for 2006 (and 2005, to a lesser extent) can be expected to increase as further inquests are completed and the results notified to the Programme. The figures for 2006, therefore, cannot be compared directly with those in previous np-SAD publications.

1. Demographic characteristics

The figure reported on here for deaths in 2006 is 1,366, a decrease of about 14% from the previous year (1,593). As more data are received for 2006 this gap will narrow. The demographic profile of cases remained stable in 2006 with no significant changes in age, gender, ethnicity, living arrangements, employment status, and place of death distributions. However, there was a small increase in the median age at death, from 36 to 37 years.

2. Underlying cause(s) of death

The proportion of accidental deaths increased from 58.8% in 2005 to 60.5% in 2006 (PR = 1.0, 95% CI = 1.0 - 1.1), as did that for poisonings of undetermined intent from 14.8% in 2005 to 16.4% in 2006 (PR = 1.1, 95% CI = 0.9 - 1.3). By contrast, deaths from intentional self-poisoning decreased from 14.8% to 13.1% (PR = 1.1, 95% CI = 0.9 - 1.3).

3. Manner of death

The patterns observed for underlying cause(s) of death were echoed for the manner of death. The proportion of accidental deaths decreased from 66.0% in 2005 to 64.7% in 2006 (PR = 1.0, 95% CI = 1.0 - 1.1), as did suicides – from 16.5% to 14.8% (PR = 1.1, 95% CI = 0.9 - 1.3). Conversely, undetermined deaths increased from 13.8% to 16.7% (PR = 1.2, 95% CI = 1.0 - 1.4). Natural deaths (2.5% - 2.4%), homicides (0.0% - 0.0%), and deaths unclassified/not specified (0.9% - 1.4%) remained stable.

4. Substances implicated in death

4.1 Multiple substances

Data on implicated drugs were available for 1,266 deaths occurring in 2006 (1,482 in 2005). Heroin/morphine remained the most frequently mentioned drug in 2006, having been implicated in 46% of deaths, similar to the previous year. There were increases in both the number and proportion of mentions of methadone, and in the proportion for alcohol-in-combination. However, these

changes were not statistically significant (Table 8).

4.2 Single substance

There were no significant changes between 2005 and 2006 in the proportions accounted for by individual drugs in fatalities related to a single substance, excluding methadone, (Table 9). However, there were increases in the number of deaths accounted for by anti-psychotics and methadone.

Table 8: Changes in proportions of psychoactive substances implicated in multiple substance deaths, np-SAD cases, 2005-2006

Substance	2005 (N = 1,482)	2006 (N = 1,266)	Percentage Ratio (PR)	95% CI	Change (percentage points)
Alcohol-in-combination	26.4	32.2	1.1	1.0 - 1.3	+5.8
Amphetamines	3.0	3.6	1.1	0.8 - 1.7	+0.6
Anti-depressants	17.2	17.5	0.9	0.8 - 1.1	+0.3
Anti-epileptics	2.1	2.1	1.1	0.8 - 1.6	-
Anti-psychotics	3.9	4.6	1.1	0.8 - 1.6	+0.7
Cannabis	2.4	2.0	1.3	0.8 - 2.2	-0.4
Cocaine	12.4	10.7	1.2	1.0 - 1.5	-1.7
Ecstasy-type drugs	3.2	3.3	1.0	0.6 - 1.4	+0.1
GHB	0.3	0.6	1.6	0.5 - 5.2	+0.3
Heroin/morphine	44.3	45.9	1.0	0.9 - 1.0	+1.6
Hypnotic/sedatives	14.4	15.0	1.0	0.8 - 1.2	+0.6
Methadone	12.4	17.1	3.6	3.1 - 4.2	+4.7
Other opiates/ opioid analgesics	21.8	22.0	0.9	0.8 - 1.1	+0.2

Note: Column totals may sum to more than 100% since more than one substance may be implicated in a death.

Table 9: Changes in proportions of psychoactive substances implicated in single substance deaths, np-SAD cases, 2005-2006

Substance	2005 (N = 1,482)	2006 (N = 1,266)	Percentage Ratio (PR)	95% CI	Change (percentage points)
Amphetamines	1.2	1.1	1.2	0.6 - 2.3	-0.1
Anti-depressants	5.8	5.5	1.0	0.7 - 1.3	-0.3
Anti-epileptics	0.9	0.6	1.4	0.6 - 3.3	-0.3
Anti-psychotics	0.9	1.5	1.6	0.8 - 3.0	+0.6
Cannabis	0.3	0.2	2.1	0.4 - 11.0	-0.1
Cocaine	2.7	2.4	1.2	0.8 - 1.9	-0.3
Ecstasy-type drugs	1.2	1.3	1.0	0.5 - 1.9	+0.1
GHB	0.1	0.1	0.6	0.1 - 6.4	-
Heroin/morphine	18.4	18.6	0.9	0.8 - 1.1	+0.2
Hypnotic/sedatives	1.2	1.3	1.0	0.5 - 1.9	+0.1
Methadone	3.5	5.8	1.6	1.1 - 2.2	+2.3
Other opiates/ opioid analgesics	6.0	5.6	1.2	0.9 - 1.6	-0.4

5 Deaths per 100,000 population

5.1 Changes in jurisdictions with highest rates in 2005

The following jurisdictions reported annual drug-related death rates of 10/100,000 or higher in 2005: Brighton & Hove (24.2); Dumbarton (13.4); Blackpool & the Fylde (12.8); and the Isle of Man (11.3). The Isle of Man (-87%), Brighton & Hove (-26%), and Dumbarton (-16%) all showed declines in 2006. The rate in Blackpool & the Fylde increased significantly (+52%).

5.2 Changes in jurisdictions with lowest rates in 2005

The following jurisdictions reported annual drug-related death rates of less than 1 per 100,000 population in 2005: City of London (0.00); Isles of Scilly (0.00); Stamford (0.00); Greater Manchester – West (0.5); South & West Cambridgeshire (0.6); Gwent (0.7); Central & South East Kent (0.8); Essex & Thurrock (0.8); Spilsby & Louth (0.8); Cardiff and Vale of Glamorgan (0.9); and Rutland & North Leicestershire (0.9). Of these, the City of London, the Isles of Scilly, and Stamford remained unchanged. Cardiff & the Vale of Glamorgan, and South & West Cambridgeshire both showed a decline. The rest showed some increases, the most evident being: Central & South East Kent (+575%); Greater Manchester West

(+340%); Rutland & North Gwent (+157%); Leicestershire (+156%); Spilsby & Louth (+100%); and Essex & Thurrock (+100%).

5.3 Jurisdictions with highest rates in 2006

The following jurisdictions reported annual drug-related death rates higher than 10/100,000 in 2006: Blackpool & the Fylde (19.4); Brighton & Hove (17.9); Western Cumbria (17.3); Jersey (12.3); Dumbarton (11.3); and Newcastle-upon-Tyne (10.1). Of these six areas, four (Western Cumbria; Jersey, Newcastle-upon-Tyne, and Blackpool & the Fylde) showed a significant increase over 2005, whilst one (Brighton & Hove) showed a significant decline.

5.4 Jurisdictions with lowest rates in 2006

The following jurisdictions reported annual drug-related death rates of less than 1/100,000 in 2006: Cardiff & Vale of Glamorgan (0.00); City of London (0.00); Guernsey (0.00); Herefordshire (0.00); Isles of Scilly (0.00); North Lincolnshire & Grimsby (0.00); South Shropshire (0.00); Stamford (0.00); Wiltshire (0.2); Inner West London (0.3); South & West Cambridgeshire (0.3); North Yorkshire Eastern (0.5); Northamptonshire (0.6); North Tyneside (0.6); Nottinghamshire (0.7); Darlington & South Durham (0.9); and Powys (0.9).

IX Commentary

This is the eighth annual report produced by the *national programme* on Substance Abuse Deaths. This annual report is different from the semi-annual surveillance reports in that it reports on deaths that actually occurred in 2006, even where inquests (or other investigations) were completed in 2007. The report provides useful information that continues to assist policy makers, such as the Department of Health and the Devolved Administrations, to assess the impact of service provision and other interventions.

This review is different to those in previous years in respect of its geographical coverage. As indicated earlier, detailed information on individual Scottish cases is more comprehensive. This year, as in 2005, the Northern Ireland Statistics and Research

Agency (NISRA) have provided data on drug-related poisoning deaths, registered by the General Register Office for Northern Ireland, up to the end of 2006.

Annex AR4 provides information on the rates per 100,000 population (aged 16 and over) for np-SAD cases in 2006 broken down by DAAT area of usual residence and by place of death. This is a new addition to the annual report.

The demographic profile of np-SAD cases remains consistent with last year's report. The majority of cases were males (76%), under the age of 45 years (71%), and White (96%). Where the information was available, at least 66% of the sample was drug abuser/dependent, as defined by the Programme.

Blackpool & the Fylde recorded the highest annual death rate (19.4/100,000 population) in 2006. Brighton & Hove (17.9) and Western Cumbria (17.3) recorded the second and third highest annual death rates in 2006. Further areas of concern with relatively high annual drug-related death rates include: Jersey (12.3), Dumbarton (11.3), and Newcastle-upon-Tyne (10.1).

Cardiff & Vale of Glamorgan (0.00); City of London (0.00); Guernsey (0.00); Herefordshire (0.00); Isles of Scilly (0.00); North Lincolnshire & Grimsby (0.00); South Shropshire (0.00); Stamford (0.00); recorded the lowest death rates in 2006.

On the whole, the present annual report has seen a one per cent reduction in the number of DRDs reported to the np-SAD compared to the number reported in last year's report.¹ Given that compliance rate (89%) of coroners is similar to last year, the reduction that we have observed may be real rather than a reflection of low reporting rates by some coroners.

The proportion of deaths due to intentional self-poisoning declined by a further 3 percentage points in 2006. Most deaths (61%) were due to accidental poisoning. There appears to have been a further decrease in deaths directly caused by some traditionally prescribed psychoactive drugs, e.g. anti-depressants, hypnotics/sedatives and other opiates/ opioid analgesics.

Fatalities related to the consumption of most illicit drugs have shown a decrease. Whilst this is not true of heroin, which showed a small decrease in 2006, it is the case for stimulants including ecstasy-type drugs, cocaine, and cannabis. It would seem that the fatal consequences of widespread consumption of cocaine in the UK are becoming increasingly evident. Deaths due to cocaine's more addictive derivative 'crack' is occurring more frequently in terms of it being specifically mentioned in an increasing number of the forms returned to the np-SAD. Previous np-SAD surveillance reports have indicated a steady increase in cocaine-related deaths since 1997. Whilst cocaine fatalities showed a slight decrease in 2006,

we repeat our previous recommendations for thorough investigation into the root causes and appropriate policy responses.

The number of deaths in which amphetamine was implicated rose from 22 in 2004, to 40 in 2005 and to 46 in 2006; deaths in which it was the sole drug rose from 12 in 2004 to 16 in both 2005 and 2006. There is a possibility that such an increase may reflect the growing concern for the increased use of methamphetamine ('crystal meth') in the UK. This trend needs to be closely monitored.

Another continuing area of concern is fatalities due to methadone. Although the number of deaths in which methadone was the sole drug mentioned reported to the Programme remained stable in 2005 at 45. The number increased significantly to 74 in 2006. Thus, the numbers still remain significantly high for a substance which is primarily used in substitution treatment. Furthermore, diversion continues to be an important feature of methadone deaths, in that in up to 60% of such cases methadone prescribed for one individual has been consumed by another person. The number of mono-valent methadone-related fatalities has risen significantly. Diversion in such cases remains a major problem.

In the previous annual report we noted the death of a Somali male in 2005 from the consequences of the long-term use of khat. Khat (or qat) is a herbal product consisting of the leaves and shoots of the shrub *catha edulis*. Fresh leaves of khat contain the alkaloid stimulants cathinone (S-(-)- α -aminopropiophenone) and cathine (S,S-(+)-norpseudoephedrine). Cathinone and cathine are controlled substances under Class C of the UK Misuse of Drugs Act 1971; the plant itself is not. Two further cases have been identified, one in 2004 and one in 2006; both were of Somali males resident in London.

Although there has been a slight reduction (of 12 percentage points) in the involvement of opioid analgesics in deaths between 2004 and 2006, this statistic hides a significant shift in the specific substances implicated. The number of cases involving co-proxamol/dextropropoxyphene decreased by three-quarters (71.4%) during this period (from 140 to 40), whilst the number of cases involving tramadol (a Prescription Only Medicine) increased by more than half (from 32 to 50). This suggests that tramadol is

¹ The number of deaths in England that occurred in 2006 and were reported to the Programme which meet the criteria used for monitoring the Government's drug strategy number 1,059. This is about 15% lower than the corresponding number for 2005 (1,251).

emerging as the 'new co-proxamol', following the phased withdrawal of co-proxamol over the three-year period January 2005 to December 2007 (Duff, 2005). Developments in this area need monitoring.

Fentanyl is an opioid analgesic (about 200 times stronger than morphine) and is a Class A Controlled Drug. It has an important role in the management of chronic severe pain which has been inadequately controlled by less potent pain-killing drugs. It comes in three formulations, lozenge, injection, and patches.

The Programme's attention has been drawn to the relatively high number of deaths in Jersey involving fentanyl by the island's Deputy Viscount, Peter de Gruchy. There have been 4 in 2006 and one (so far) in 2007; at least 3 of these fatalities followed

the injection of a fentanyl solution, using vinegar to extract the active drug, from fentanyl patches. The victims were all young males. As a direct result of these deaths, the States of Jersey Health and Social Services Department issued a public health alert on 1 March 2007, including new guidance for doctors and pharmacists see – <http://www.gov.je/Health/News/Fentanyl+deaths+press+release.htm>.

Deaths involving fentanyl, although numbering just 20 to date on the np-SAD database, appear to be on the increase. Whilst there was only one in both 2001 and 2002, the number rose to 4 in 2003, 3 in 2004, 4 in 2005, and to 6 in 2006. Such fatalities appear, for the main part, to be confined to discrete regions i.e. the Channel Islands (Jersey 5 cases; Guernsey 2 cases), and Northern Ireland (4 cases).

X A closer look – nature, extent and pattern of cannabis-related mortality

Introduction

Cannabis is the most widely used illicit substance in Europe, and worldwide. Its use increased in almost all EU countries during the 1990s. Lifetime prevalence rates vary widely across Europe, ranging from 32% to 40% (EMCDDA, 2006).

In the 1960s and 1970s an average reefer contained about 10 mg of THC. Over the past 20 years, sophisticated cultivation and plant-breeding techniques have greatly increased the potency of cannabis products. Now a joint made out of skunkweed, netherweed and other potent subspecies of *Cannabis sativa* may contain around 150 mg of THC, or 300 mg if laced with cannabis oil (Ashton, 2001).

In January 2004, cannabis was reclassified as a Class C drug from Classes A and B under the Misuse of Drugs Act 1971. This means that users and those in possession of small amounts would not be arrested but cautioned.

Pharmacokinetics and pharmacodynamics of cannabis

Herbal cannabis contains over 400 compounds including over 60 cannabinoids. Delta(9)-Tetrahydrocannabinol (THC) is the main source of the pharmacological effects caused by the consumption of cannabis, both the marijuana-like action and the medicinal benefits of the plant. Other plant cannabinoids include [DELTA]⁹-THC, cannabinal and cannabidiol (Ashton, 2001). Pulmonary assimilation of inhaled THC causes a maximum plasma concentration within minutes; psychotropic effects start within seconds to a few minutes, reach a maximum after 15-30 minutes, and taper off within 2-3 hours. Following oral ingestion, psychoactive effects set in with a delay of 30-90 minutes, reach their maximum after 2-3 hours and last for about 4-12 hours, depending on dose and specific effect (Grotenhermen, 2003). Cannabinoids are fat soluble, accumulating in fatty tissues and reaching peak concentrations in 4-5 days. They are then slowly released back into other body compartments, including the brain. Consequently, the tissue elimination

half-life of THC is about 7 days, and complete elimination of a single dose may take up to 30 days. Cannabinoids produce a dose-related tachycardia, and tolerance develops with chronic use. There is also a widespread vasodilation. Furthermore, postural hypotension and fainting may occur

Direct toxicity

Despite the widespread illicit use of cannabis there are very few instances of fatal overdose. According to Kochanowski and Kała (2005), cannabis-related fatalities happen most often after intravenous injection of hashish oil. While fatal overdose solely attributable to cannabis is rare, other forms of cannabis-related fatality are more common.

Cannabis is often included in a poly-drug cocktail that causes death, especially when consumed in combination with alcohol. For example, US data from the Drug Abuse Warning Network, based on medical examiners' reports, indicated that (when reported) cannabis was very often mentioned in combination with other substances. In metropolitan areas that reported any cannabis in drug abuse deaths, an average of 77% of such deaths involved cannabis and at least one other substance (SAMSHA, 2004). In Australia a similar pattern is evident: of 8 cannabis use disorder deaths (ICD10 code F12) recorded between 1997 and 2001, 5 also had accidental poisonings coded – 3 with opioids at toxic levels and one each with amphetamines and alcohol (Barker and Degenhardt, 2003).

Indirect association with fatalities

Central Nervous System and cardiovascular issues: Geller et al (2004) identified two cannabis-related cases of cerebellar infarction. Brainstem compromise caused by cerebellar and cerebral oedema led to death in these cases. Bachs and Mørland (2001) reported six cases of possible acute cardiovascular death in young adults where very recent cannabis ingestion was documented by the presence of THC in post mortem blood samples. A broad toxicological blood analysis failed to reveal any other drugs.

Implication in suicide: Piper et al (2006) collected data on all suicide deaths between 1990 and 2000 in New York City and assessed trends and correlates of firearm-related suicide deaths. During the period studied, there were a total of 6,008 suicides; of these, 1,200 (20.0%) were firearm-related suicides. Multivariate analysis revealed that firearm suicide was significantly associated with being male, of black origin, residing in the outer boroughs, and using cannabis at the time of death. Similar findings were reported by Kung et al (2005).

Fatal injuries; traffic accidents; occupational fatalities: Studies of drug-related mortality rarely describe fatal injuries under the influence (FIUI) of psychoactive drugs. Oyefeso et al (2006) examined the nature, extent and pattern of FIUI in England between January 1999 and December 2001 amongst deaths notified by a study panel of coroners in England. The leading mechanism for intentional FIUI was suffocation while the predominant mechanisms in unintentional FIUI were road traffic accidents and falls. Cannabis was implicated in 18% of FIUI cases. This finding challenged the general assumption that cannabis does not contribute to premature mortality like other illicit drugs. However, the authors suggest that the mechanism of cannabis action in these fatalities requires further investigation given that its metabolites are usually detectable in the tissue up to a few weeks after consumption.

Under the influence of cannabis, both spatial and time perception is impaired. Hallucinations may occur with high doses. A number of studies have shown that cannabis impairs road-driving performance and have linked cannabis use with increased incidence of road traffic accidents. In the UK, USA, Australia, New Zealand and many European countries, cannabis is the most frequently detected substance, apart from alcohol, in drivers involved in fatal accidents or stopped for impaired driving. The incidence of driving under the influence of cannabis is rising in parallel with increased cannabis use in the community (O'Kane et al, 2002), with younger drivers at risk.

Bronchitis and cancer: The smoke from herbal cannabis preparations contains the same constituents (apart from nicotine) as tobacco smoke, including carbon monoxide, bronchial irritants, tumour initiators (mutagens), tumour promoters and

carcinogens. The tar from a cannabis cigarette contains higher concentrations of benzantracenes and benzpyrenes, both of which are carcinogens, than tobacco smoke. It has been estimated that smoking a cannabis cigarette results in approximately a five-fold greater increase in carboxyhaemoglobin concentration, a three-fold greater amount of tar inhaled and retention in the respiratory tract of one-third more tar than smoking a tobacco cigarette (for a detailed review, see Ashton, 2001). This is mainly due to the way a cannabis joint is smoked, with deep and prolonged inhalation and no filter. In addition, cannabis has a higher combustion temperature than tobacco. It has been calculated that smoking 3-4 cannabis cigarettes a day is associated with the same evidence of acute and chronic bronchitis and the same degree of damage to the bronchial mucosa as smoking 20 or more tobacco cigarettes a day (Aldington et al, 2007). Habitual cannabis smokers have a significantly higher prevalence of chronic and acute respiratory symptoms such as chronic cough and sputum production, wheeze and acute bronchitis episodes than non-smokers (Moore et al, 2005).

Other reports of cannabis-related deaths in the UK

UK official statistics record two deaths involving cannabis (and no other drug) in 1993, two in 1994 and one in 1995 (Hansard, 1998; House of Lords, 1998); these fatalities were attributed to inhalation of vomit.

A more recent case that occurred in Wales was deemed to be the first fatality in the UK due to cannabis poisoning (Carey, 2004). The victim had complained of headache, and was found dead the next morning. There was no evidence of any previous illness and of alcohol consumption in the last 48 hours before death; and no cause of death was found at post mortem. However, post-mortem tests revealed a high level of carboxy-THC (consistent with him having been a heavy user of cannabis), together with a trace of cannabidiol (suggesting he may have consumed cannabis a few hours prior to death and thus may have been experiencing its effects at the time of his death) in the victim's blood. The cause of death was registered as cannabis toxicity and a verdict of death by misadventure was recorded.

np-SAD data

During the period 1999-2006 cannabis was found at post mortem or implicated in an average 6.5% of all cases each year (911 out of 13,991). On its own, during this 8-year period, cannabis accounted for an average of 3.3% of cases, but 4.7% of cases where it was implicated.

Where cannabis was implicated in combination with other psychoactive substances in deaths, the main substances involved were: heroin/morphine (59%); alcohol (42%); hypnotics/sedatives (39%); other opiates/opioid analgesics (30%); cocaine (26%); methadone (19%); amphetamines (13%); anti-depressants (11%); and ecstasy-type drugs (9%). The most common combinations with cannabis were: alcohol and heroin/morphine (24%); heroin/morphine and hypnotics/sedatives (23%); heroin/morphine and other opiates/opioid analgesics (19%); hypnotics/sedatives and other opiates/opioid analgesics (16%); heroin/morphine and cocaine (15%); alcohol and hypnotics/sedatives (13%); methadone and hypnotics/sedatives (11%); alcohol and other opiates/opioid analgesics (10%); cocaine and hypnotics/sedatives (9%); and alcohol and cocaine (9%).

Cannabis was solely implicated in 30 cases (3.3% of cases where it was involved); of these, 26 (87%) related to males. All but two cases were aged less than 45 years when

they died; median age 25.8 years (range 15-52 years). Eleven of the cases lived alone; 17 with others. Half (15 cases) were employed; 9 were unemployed, and 3 were students. Half died at a residential address and 8 in hospital.

The underlying cause(s) of death were as follows: injuries (12); diseases (6); hanging (3); accidental poisoning (3); mental and behavioural disorders due to cannabis (2); asphyxiation (1); personal history of drug abuse (1); poisoning of undetermined intent (1); and unascertained (1). The level of cannabis in the deceased was only given on the data collection form for only one of these cases. However, the specific mentions of cannabis in the cause of death fields were as follows: sudden cardiac arrest death with a history of cannabis use (1); sudden cardiac arrest death with recent cannabis ingestion (1); recent ingestion of cannabis (1); cannabis abuse (1); use of cannabinoids (1); cannabinoids present in excess of 0.05mg/L (1); cannabis positivity (1); presence of cannabis (2); and presence of cannabinoids (2).

Concluding remarks

Cannabis is a hazardous drug to use both in terms of morbidity (especially) and mortality. Although relatively rarely implicated in death, cannabis-related deaths do occur. Beliefs amongst the general population about its safety are often misinformed and misplaced.

Annex AR1: np-SAD drug-related deaths by underlying cause(s), 2006

ICD-10	No. of cases (n = 1,366)	%	Description
X40	1	0.1	<i>Accidental poisoning</i> Non-opioid analgesics, antipyretics and anti-rheumatics
X41	93	6.8	Anti-epileptic, sedative-hypnotic, Anti-parkinsonism and psychotropic drugs, not elsewhere classified
X42	706	51.7	Narcotics and psychodysleptics (hallucinogens), not elsewhere classified
X43	1	0.1	Other drugs acting on the autonomic nervous system
X44	5	0.4	Other and unspecified drugs, medicaments and biological substances
X45	18	1.3	Alcohol
X47	2	0.1	Gases
X60	2	0.1	<i>Intentional self-poisoning</i> Non-opioid analgesics, antipyretics and anti-rheumatics
X61	77	5.6	Anti-epileptic, sedative-hypnotic, Anti-parkinsonism and psychotropic drugs, not elsewhere classified
X62	95	7.0	Narcotics and psychodysleptics (hallucinogens), not elsewhere classified
X63	2	0.1	Other drugs acting on the autonomic nervous system
X64	2	0.1	Other and unspecified drugs, medicaments and biological substances
X67	1	0.1	Gases
Y10	4	0.3	<i>Poisoning of undetermined intent</i> Non-opioid analgesics
Y11	71	5.2	Anti-Parkinsonism drugs
Y12	144	10.5	Narcotics/psychodysleptics
Y14	4	0.3	Other/unspecified drugs
Y15	1	0.1	Alcohol
F10.0	1	0.1	<i>Mental & behavioural disorders due to psychoactive substance use</i> Acute intoxication - alcohol
F10.2	4	0.3	Chronic alcoholism
F11.1	1	0.1	Harmful use - opioids
F11.2	1	0.1	Dependence – opioids
F12.1	1	0.1	Harmful use - cannabinoids
F14.1	2	0.1	Harmful use - cocaine
F14.2	1	0.1	Dependence - cocaine
F15.0	1	0.1	Intoxication – stimulants
F18.3	1	0.1	Withdrawal – volatile substances
F19.1	1	0.1	Harmful use – multiple other
F19.2	5	0.4	Dependence – multiple/other
Z72.2	7	0.5	Drug abuse, personal history
I10	1	0.1	<i>Cardiovascular system – diseases, defects or conditions affecting</i> Essential (primary) hypertension
I20-I25	4	0.3	Ischaemic heart diseases
I26.9	1	0.1	Pulmonary embolism
I49.9	1	0.1	Cardiac arrhythmia
I51.7	1	0.1	Cardiomegaly
I74.0	1	0.1	Embolism/thrombosis
I82.8	1	0.1	Embolism/thrombosis of other specified veins

ICD-10	No. of cases (n = 1,366)	%	Description
J18.0 J20 J46 J81	1 1 1 1	0.1 0.1 0.1 0.1	<i>Diseases of the respiratory system</i> Bronchopneumonia Acute bronchitis Status asthmaticus/ acute severe asthma Pulmonary oedema or congestion
K70 K70.3 K72.9 K76.0 K85	2 1 1 1 2	0.1 0.1 0.1 0.1 0.1	<i>Diseases of the liver</i> Alcoholic liver disease Alcoholic cirrhosis of liver Hepatic failure, unspecified Fatty (change of) liver, not elsewhere classified Acute pancreatitis
S01.0 S02.9 S06.5 S06.8 S09.9 S20-S29 T07 V04.1 V86.0 V89.2	1 2 1 1 5 1 10 1 4 1	0.1 0.1 0.1 0.1 0.4 0.1 0.7 0.1 0.3 0.1	<i>Injuries</i> Open wound of scalp Fracture of skull & facial bones, part unspecified Traumatic subdural haemorrhage Haemorrhagic skull (Intra-cranial injuries) Head injuries unspecified Injuries of the thorax Multiple injuries, unspecified Pedestrian injured in collision with heavy transport Driver of all-terrain transport .. injured in traffic accident Person injured in unspecified motor vehicle accident – traffic
W76 X70 Y20	5 21 3	0.4 1.5 0.2	<i>Hanging</i> Other accidental hanging and strangulation Intentional hanging Hanging, undetermined intent
R9.0 W79	2 1	0.1 0.1	<i>Asphyxia</i> Asphyxia - general Inhalation & ingestion of food – obstructing airway
W73 W74 X71	1 1 1	0.1 0.1 0.1	<i>Drowning & submersion</i> Other specified drowning and submersion Unspecified Intentional drowning
A40.0 B44 E10 E14 E87.2 G45.9 L02.2 T30.0 T70.2 X09 X73 W19 R99	1 1 1 1 1 1 1 2 1 2 1 2 13	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 1.0	<i>Other</i> Septicaemia due to streptococcus, group A Aspergillosis Diabetic ketoacidosis Diabetes mellitus, unspecified Metabolic acidosis, exc. diabetic acidosis Transient cerebral ischaemic attack, unspec. Groin abscess Burn of unspecified region, unspecified degree Barotrauma, not otherwise specified Inhalation of smoke and fumes Intentional self-harm by rifle, shotgun & larger firearm discharge Unspecified fall Unascertained

Where possible, causes of death have been grouped together in terms of the mechanisms of death. At present, although all causes of death on the death certificate (together with other information if available) are taken into consideration in classifying underlying cause of death, the principal cause of death is used here by np-SAD to allocate the ICD-10 code. In order to achieve a greater level of consistency, a hierarchical system was introduced for classifying the underlying cause of death using ICD-10 criteria for deaths involving multiple substances. Deaths that involve a combination of narcotics and other psychoactive drugs are coded as narcotic deaths. Where possible a code which specifies intentionality is used.

Annex AR2: np-SAD cases in 2006 by coroner's jurisdiction (16 years and over) and deaths in 2005 reported in 2006/7

Coroner's Jurisdiction & county district	np-SAD deaths Jan-Dec 2006	Annual death rate per 100,000 population ⁽¹⁾	np-SAD 2005 deaths reported in 2006/7 ⁽²⁾
Queen's Household	0	0.00	0
ENGLAND			
AVON	19	2.30	2
BEDFORDSHIRE	24	5.22	1
BERKSHIRE	-	-	-
BUCKINGHAMSHIRE			
Buckinghamshire	13	3.40	0
Milton Keynes	7	4.09	0
CAMBRIDGESHIRE			
North & East Cambridgeshire	3	2.24	1
Peterborough	9	7.15	1
South & West Cambridgeshire	1	0.29	0
CHESHIRE	19	2.37	17
CORNWALL			
Cornwall	15	3.52	10
Isles of Scilly	0	0.00	0
CUMBRIA			
North Eastern Cumbria	4	2.36	1
Southern Cumbria & Furness	6	4.23	0
Western Cumbria	17	17.33	0
DERBYSHIRE			
Derby & South Derbyshire	15	3.19	2
North Derbyshire	17	5.26	0
DEVON			
Exeter & Greater Devon	22	4.54	20
Plymouth & South West Devon	-	-	-
Torbay & South Devon	5	2.56	0
DORSET			
Bournemouth, Poole & Eastern Dorset	30	7.56	0
Western Dorset	7	3.78	0
DURHAM			
Darlington & South Durham	2	0.90	0
North Durham	4	1.50	2
EAST SUSSEX			
Brighton & Hove	38	17.88	14
East Sussex	20	4.92	3
ESSEX			
Essex & Thurrock	17	1.60	2
Southend & South East Essex	11	4.18	0
GLOUCESTERSHIRE	11	2.36	0
GREATER MANCHESTER			
Manchester	10	2.80	7
North Manchester	10	2.09	5
South Manchester	20	3.51	4
West Manchester	14	2.21	6

Coroner's Jurisdiction & county district	np-SAD deaths Jan-Dec 2006	Annual death rate per 100,000 population ⁽¹⁾	np-SAD 2005 deaths reported in 2006/7 ⁽²⁾
HAMPSHIRE			
Central Hampshire	5	1.82	1
North East Hampshire	8	2.58	0
Portsmouth & South East Hampshire	15	3.38	4
Southampton & New Forest	24	7.37	0
HEREFORDSHIRE	0	0.00	0
HERTFORDSHIRE	19	2.27	1
HUMBERSIDE			
East Riding & Hull	13	2.77	0
ISLE OF WIGHT	8	6.90	1
KENT			
Central & South East Kent	14	5.36	8
Mid Kent & Medway	11	2.69	1
North East Kent	-	-	-
North West Kent	-	-	-
LANCASHIRE			
Blackburn, Hyndburn & Ribble Valley	12	5.58	0
Blackpool & the Fylde	35	19.39	1
East Lancashire	16	8.36	0
Preston & West Lancashire	14	2.47	0
LEICESTERSHIRE			
Leicester City & South Leicestershire	-	-	-
Rutland & North Leicestershire	8	2.25	0
LINCOLNSHIRE			
Boston & Spalding	-	-	0
North Lincolnshire & Grimsby	0	0.00	1
Spilsby & Louth	2	1.58	0
Stamford	0	0.00	0
West Lincolnshire	13	6.14	0
LONDON			
City of London	0	0.00	0
Eastern London	-	-	0
Inner North London	46	6.86	4
Inner South London	53	6.57	1
Inner West London	2	0.26	0
Northern London	29	2.74	1
Southern London	14	1.68	2
Western London	64	6.14	10
MERSEYSIDE			
Knowsley, St Helens & Sefton	9	1.85	3
Liverpool	29	7.92	0
Wirral	9	3.57	2
NORFOLK			
Great Yarmouth	-	-	-
King's Lynn	4	3.46	0
Norwich & Central Norfolk	10	2.04	2
NORTHAMPTONSHIRE	3	0.58	1
NORTHUMBERLAND			
North Northumberland	9	9.48	6
South Northumberland	-	-	-

Coroner's Jurisdiction & county district	np-SAD deaths Jan-Dec 2006	Annual death rate per 100,000 population ⁽¹⁾	np-SAD 2005 deaths reported in 2006/7 ⁽²⁾
NORTH YORKSHIRE			
North Yorkshire Eastern	1	0.50	0
North Yorkshire Western	3	1.09	0
York	-	-	-
NOTTINGHAMSHIRE	6	0.71	0
OXFORDSHIRE	7	1.38	6
SHROPSHIRE			
Mid & North Shropshire	6	3.81	0
South Shropshire	0	0.00	0
The Wrekin	4	3.14	0
SOMERSET			
Eastern Somerset	4	1.88	0
Western Somerset	7	3.40	0
SOUTH YORKSHIRE			
South Yorkshire East	18	4.14	0
South Yorkshire West	37	6.13	4
STAFFORDSHIRE			
South Staffordshire	5	1.03	1
Stoke-on-Trent & North Staffordshire	7	1.88	11
SUFFOLK	17	3.03	0
SURREY	23	2.65	1
TEESSIDE			
Hartlepool	1	1.40	0
Teesside	20	5.41	24
TYNE & WEAR			
Gateshead & South Tyneside	14	5.01	0
Newcastle-upon-Tyne	23	10.07	2
North Tyneside	1	0.64	-
Sunderland	-	-	-
WARWICKSHIRE	12	2.76	1
WEST MIDLANDS			
Birmingham	41	4.37	6
Black Country	15	2.23	0
Coventry	9	3.69	0
Wolverhampton	2	1.04	3
WEST SUSSEX	25	4.02	2
West YORKSHIRE			
West Yorkshire Eastern	40	4.73	9
West Yorkshire Western	36	4.28	5
WILTSHIRE	1	0.20	1
WORCESTERSHIRE	12	2.66	0

Coroner's Jurisdiction & county district	np-SAD deaths Jan-Dec 2006	Annual death rate per 100,000 population ⁽¹⁾	np-SAD 2005 deaths reported in 2006/7 ⁽²⁾
WALES			
Bridgend & Glamorgan Valleys	8	2.39	7
Cardiff & the Vale of Glamorgan	0	0.00	1
Carmarthenshire	3	2.07	0
Central North Wales	-	-	-
Ceredigion	2	3.05	0
Gwent	8	1.81	0
Neath & Port Talbot	5	4.54	1
North East Wales	-	-	-
North West Wales	12	7.89	1
Pembrokeshire	2	2.11	0
Powys	1	0.93	3
Swansea	12	6.48	0
NORTHERN IRELAND			
Northern Ireland	2	0.15	0
THE ISLANDS			
GUERNSEY	0	0.00	0
JERSEY	9	12.29	0
ISLE OF MAN	1	1.53	0
SCOTLAND			
Dumbarton	11	11.34	0

Please note that (0) refers to either no drug-related deaths or death rates of less than 0.01, whilst (–) indicates that no reports were submitted for the specific period from that jurisdiction or area. In subsequent reports these rates may increase as more inquests on deaths in 2006 are held and/or notified to the np-SAD. These rates should therefore be regarded as minimum rates.

(1) The rate per 100,000 population is based on published mid-year population estimates for local government administrative areas for the years in question. However, the areas covered by 23 of the coroners' jurisdictions in England and Wales are not co-terminous with these boundaries and cover parts of such areas (see Appendix 1). Where administrative areas are split between jurisdictions, the estimated population has been divided into two or three as applicable. However, this means that the population of some coroners' jurisdictions may be either over- or under-estimated. It is necessary to make such assumptions until more accurate figures can be obtained or calculated.

(2) Notified after the publication of the np-SAD Annual Report, 2006.

Annex AR3: Changes in annual death rate per 100,000 population for np-SAD cases (16 years old and over), and annual percentage of all inquests held, 2005 and 2006

Coroner's Jurisdiction & county district	Number of np-SAD deaths 2005	Annual death rate per 100,000 population on 2005 ⁽¹⁾	Annual % of all inquests held in 2005 ⁽²⁾	Number of np-SAD deaths 2006	Annual death rate per 100,000 population on 2006 ⁽¹⁾	Annual % of all inquests held in 2006 ⁽²⁾
Queen's Household	0	0.00	0.00	0	0.00	0.00
ENGLAND						
AVON	11	1.34	2.04	19	2.30	2.72
BEDFORDSHIRE	25	5.51	12.56	24	5.22	12.83
BERKSHIRE	1	0.16	0.38	-	-	-
BUCKINGHAMSHIRE						
Buckinghamshire	11	2.90	6.11	13	3.40	8.50
Milton Keynes	9	5.32	9.78	7	4.09	7.07
CAMBRIDGESHIRE						
North & East Cambridgeshire	7	5.31	11.67	3	2.24	4.11
Peterborough	3	2.39	3.13	9	7.15	8.91
South & West Cambridgeshire	2	0.59	1.01	1	0.29	0.45
CHESHIRE	19	2.38	3.70	19	2.37	3.25
CORNWALL						
Cornwall	12	2.82	0.60	15	3.52	4.13
Isles of Scilly	0	0.00	0.00	0	0.00	0.00
CUMBRIA						
North Eastern Cumbria	5	3.00	4.63	4	2.36	2.63
Southern Cumbria & Furness	7	4.93	5.34	6	4.23	4.11
Western Cumbria	5	5.19	6.94	17	17.33	17.53
DERBYSHIRE						
Derby & South Derbyshire	17	3.63	6.32	15	3.19	6.94
North Derbyshire	17	5.28	7.46	17	5.26	5.92
DEVON						
Exeter & Greater Devon	42	8.77	12.24	22	4.54	5.99
Plymouth & South West Devon	-	-	-	-	-	-
Torbay & South Devon	9	4.63	10.00	5	2.56	3.25
DORSET						
Bournemouth, Poole & Eastern Dorset	15	3.79	9.87	30	7.56	18.99
Western Dorset	3	1.63	3.61	7	3.78	9.21
DURHAM						
Darlington & South Durham	4	1.81	2.40	2	0.90	1.59
North Durham	4	1.52	1.61	4	1.50	1.64
EAST SUSSEX						
Brighton & Hove	51	24.22	26.42	38	17.81	19.00
East Sussex	23	5.66	7.72	20	4.92	6.62
ESSEX						
Essex & Thurrock	8	0.75	1.80	17	1.60	3.53
Southend & South East Essex	17	6.46	15.04	11	4.18	12.36

Coroner's Jurisdiction & county district	Number of np-SAD deaths 2005	Annual death rate per 100,000 population 2005 ⁽¹⁾	Annual % of all inquests held in 2005 ⁽²⁾	Number of np-SAD deaths 2006	Annual death rate per 100,000 population 2006 ⁽¹⁾	Annual % of all inquests held in 2006 ⁽²⁾
GLOUCESTERSHIRE	10	2.14	3.44	11	2.36	3.36
GREATER MANCHESTER						
Manchester	10	2.84	2.20	10	2.80	1.78
North Manchester	6	1.26	1.96	10	2.09	2.99
South Manchester	18	3.17	2.74	20	3.51	3.58
West Manchester	3	0.48	0.65	14	2.21	3.00
HAMPSHIRE						
Central Hampshire	11	4.05	7.80	5	1.82	2.44
North East Hampshire	11	3.58	9.73	8	2.58	7.27
Portsmouth & South East Hampshire	19	4.30	8.60	15	3.38	4.70
Southampton & New Forest	28	8.65	12.17	24	7.37	12.44
HEREFORDSHIRE	3	2.07	4.29	0	0.00	0.00
HERTFORDSHIRE	29	3.50	7.75	19	2.27	5.38
HUMBERSIDE						
East Riding & Hull	24	5.16	6.80	13	2.77	4.98
ISLE OF WIGHT	3	2.63	4.92	8	6.90	10.96
KENT						
Central & South East Kent	2	0.78	1.12	14	5.36	8.00
Mid Kent & Medway	5	2.40	2.60	11	2.69	4.76
North East Kent	-	-	-	-	-	-
North West Kent	-	-	-	-	-	-
LANCASHIRE						
Blackburn, Hyndburn & Ribble Valley	11	5.12	6.32	12	5.58	5.56
Blackpool & the Fylde	23	12.81	20.18	35	19.39	24.31
East Lancashire	19	9.95	12.50	16	8.36	10.26
Preston & West Lancashire	8	1.42	2.68	14	2.47	3.37
LEICESTERSHIRE						
Leicester City & South Leicestershire	-	-	-	-	-	-
Rutland & North Leicestershire	3	0.85	2.01	8	2.25	3.98
LINCOLNSHIRE						
Boston & Spalding	4	3.53	5.80	-	-	-
North Lincolnshire & Grimsby	3	1.20	2.50	0	0.00	0.00
Spilsby & Louth	1	0.80	1.56	2	1.58	3.23
Stamford	0	0.00	0.00	0	0.00	0.00
West Lincolnshire	11	5.26	11.11	13	6.14	9.56
LONDON						
City of London	0	0.00	0.00	0	0.00	0.00
Eastern London	18	2.08	5.42	-	-	-
Inner North London	35	5.34	8.52	46	6.86	8.97
Inner South London	57	7.13	9.33	53	6.57	10.15
Inner West London	11	1.48	2.63	2	0.26	0.47
Northern London	49	4.67	12.93	29	2.74	6.18
Southern London	20	2.42	6.19	14	1.68	4.26
Western London	71	6.87	14.09	64	6.14	9.70

Coroner's Jurisdiction & county district	Number of np-SAD deaths 2005	Annual death rate per 100,000 population on 2005 ⁽¹⁾	Annual % of all inquests held in 2005 ⁽²⁾	Number of np-SAD deaths 2006	Annual death rate per 100,000 population on 2006 ⁽¹⁾	Annual % of all inquests held in 2006 ⁽²⁾
MERSEYSIDE						
Knowsley, St Helens & Sefton	16	3.29	6.67	9	1.85	3.61
Liverpool	34	9.40	7.80	29	7.92	6.08
Wirral	12	4.78	4.53	9	3.57	2.83
NORFOLK						
Great Yarmouth	-	-	-	-	-	-
King's Lynn	4	3.50	6.15	4	3.46	4.55
Norwich & Central Norfolk	25	5.17	10.46	10	2.04	4.20
NORTHAMPTONSHIRE	20	3.89	9.85	3	0.58	1.11
NORTHUMBERLAND						
North Northumberland	5	5.29	4.07	9	9.48	6.12
South Northumberland	-	-	-	-	-	-
NORTH YORKSHIRE						
North Yorkshire Eastern	6	3.00	4.76	1	0.50	0.95
North Yorkshire Western	6	2.21	4.29	3	1.09	2.50
York	6	3.90	5.66	-	-	-
NOTTINGHAMSHIRE	14	1.67	3.09	6	0.71	1.37
OXFORDSHIRE	5	1.00	1.98	7	1.38	1.78
SHROPSHIRE						
Mid & North Shropshire	7	4.48	7.53	6	3.81	6.52
South Shropshire	1	1.27	3.23	0	0.00	0.00
The Wrekin	3	2.37	4.92	4	3.14	4.49
SOMERSET						
Eastern Somerset	3	1.42	3.00	4	1.88	3.88
Western Somerset	9	4.41	7.44	7	3.40	5.00
SOUTH YORKSHIRE						
South Yorkshire East	13	3.00	4.29	18	4.14	5.17
South Yorkshire West	37	6.19	8.11	37	6.13	8.37
STAFFORDSHIRE						
South Staffordshire	10	2.08	3.08	5	1.03	1.39
Stoke-on-Trent & North Staffordshire	12	3.24	2.67	7	1.88	1.47
SUFFOLK	20	3.57	7.81	17	3.03	6.51
SURREY	12	1.39	3.06	23	2.65	6.35
TEESSIDE						
Hartlepool	3	4.21	4.62	1	1.40	1.37
Teesside	10	2.71	3.15	20	5.41	5.80
TYNE & WEAR						
Gateshead & South Tyneside	11	3.96	8.03	14	5.01	7.73
Newcastle-upon-Tyne	6	2.71	1.83	23	10.07	6.46
North Tyneside	-	-	-	1	0.64	0.48
Sunderland	1	0.44	0.32	-	-	-
WARWICKSHIRE	6	1.41	3.37	12	2.76	5.33
WEST MIDLANDS						
Birmingham	18	1.94	2.08	41	4.37	4.14
Black Country	10	1.49	3.86	15	2.23	4.39
Coventry	5	2.06	3.33	9	3.69	4.57
Wolverhampton	9	4.70	8.33	2	1.04	1.22
WEST SUSSEX	26	4.20	7.60	25	4.02	8.22

Coroner's Jurisdiction & county district	Number of np-SAD deaths 2005	Annual death rate per 100,000 population on 2005 ⁽¹⁾	Annual % of all inquests held in 2005 ⁽²⁾	Number of np-SAD deaths 2006	Annual death rate per 100,000 population on 2006 ⁽¹⁾	Annual % of all inquests held in 2006 ⁽²⁾
West YORKSHIRE						
West Yorkshire Eastern	53	6.31	9.87	40	4.73	7.65
West Yorkshire Western	27	3.23	6.35	36	4.28	8.00
WILTSHIRE	5	1.00	1.95	1	0.20	0.37
WORCESTERSHIRE	12	2.68	3.93	12	2.66	4.56
WALES						
Bridgend & Glamorgan Valleys	5	1.50	2.03	8	2.39	3.11
Cardiff & the Vale of Glamorgan	3	0.85	1.34	0	0.00	0.00
Carmarthenshire	7	4.86	7.87	3	2.07	3.37
Central North Wales	-	-	-	-	-	-
Ceredigion	5	7.66	12.50	2	3.05	5.88
Gwent	3	0.68	1.90	8	1.81	5.10
Neath & Port Talbot	9	8.17	16.67	5	4.54	7.04
North East Wales	-	-	-	-	-	-
North West Wales	9	5.94	7.56	12	7.89	9.09
Pembrokeshire	3	3.18	4.05	2	2.11	3.39
Powys	3	2.82	3.70	1	0.93	1.43
Swansea	-	-	-	12	6.48	8.05
NORTHERN IRELAND						
Northern Ireland)	-	-	-	2	0.15	0.97
THE ISLANDS						
GUERNSEY	3	6.13	23.08	0	0.00	0.00
JERSEY	3	4.17	7.69	9	12.29	25.00
ISLE OF MAN	7	11.31	14.89	1	1.53	2.13
SCOTLAND						
Dumbarton	13	13.40	-	11	11.34	-

Please note that (0) refers to either no drug-related deaths or death rates of less than 0.01, whilst (-) indicates that no reports were submitted for the specific period from that jurisdiction or area. In subsequent reports these rates may increase as more inquests on deaths in 2006 are held and/or notified to the np-SAD. These rates should therefore be regarded as minimum rates.

(1) The rate per 100,000 population is based on published mid-year population estimates for local government administrative areas for the years in question. However, the areas covered by 23 of the coroners' jurisdictions in England and Wales are not co-terminous with these boundaries and cover parts of such areas (see Appendix 1). Where administrative areas are split between jurisdictions, the estimated population has been divided into two or three as applicable. However, this means that the population of some coroners' jurisdictions may be either over- or under-estimated. It is necessary to make such assumptions until more accurate figures can be obtained or calculated.

(2) Inquests held on all ages.

Annex AR4: np-SAD cases in 2006 by Drug and Alcohol Action Team area (16 years and over)

Drug and Alcohol Action Team	Annual death rate per 100,000 population – usual area of residence	Annual death rate per 100,000 population – place of death
ENGLAND		
NORTH EAST		
County Durham	2.20	1.22
Darlington	1.25	1.25
Gateshead	1.92	1.92
Hartlepool	1.40	1.40
Middlesbrough	4.59	4.59
Newcastle-upon-Tyne	9.19	10.07
North Tyneside	0.64	0.64
Northumberland	3.52	3.52
Redcar and Cleveland	4.48	4.48
South Tyneside	7.31	4.87
Stockton on Tees	5.37	4.03
Sunderland	0.43	-
NORTH WEST		
Blackburn with Darwen	6.62	7.56
Blackpool	24.05	26.63
Bolton	3.33	2.86
Bury	2.74	2.74
Cheshire	1.81	1.81
Cumbria	6.34	6.59
Halton	3.18	3.18
Knowsley	3.40	1.70
Lancashire	4.40	3.97
Liverpool	7.92	7.92
Manchester	2.80	3.36
Oldham	1.76	1.76
Rochdale	1.24	1.85
Salford	2.29	0.57
Sefton	2.63	2.63
St Helens	0.71	0.71
Stockport	0.88	0.44
Tameside	4.09	5.26
Trafford	3.50	4.09
Warrington	3.85	2.56
Wigan	2.83	2.83
Wirral	3.57	3.57
YORKSHIRE AND HUMBER		
Barnsley	7.27	6.15
Bradford	4.28	4.81
Calderdale	0.64	0.00
Doncaster	3.87	3.44
East Riding of Yorkshire	1.12	0.37
Kingston-upon-Hull	5.50	6.00
Kirklees	5.78	5.46
Leeds	4.94	5.11
North East Lincolnshire	0.00	0.00
North Lincolnshire	0.00	0.00
North Yorkshire	1.05	0.84

Drug and Alcohol Action Team	Annual death rate per 100,000 population – usual area of residence	Annual death rate per 100,000 population – place of death
Rotherham	4.94	4.44
Sheffield	5.18	4.94
Wakefield	4.64	4.25
York	-	-
EAST MIDLANDS		
Derby	3.22	4.82
Derbyshire	3.95	3.79
Leicester	-	0.44
Leicestershire	1.18	0.98
Lincolnshire	2.70	2.70
Northamptonshire	0.96	0.58
Nottingham	1.75	1.75
Nottinghamshire	0.81	0.32
Rutland	3.31	3.31
WEST MIDLANDS		
Birmingham	4.25	4.51
Coventry	2.87	3.69
Dudley	2.03	1.62
Herefordshire	0.00	0.00
Sandwell	2.65	2.65
Shropshire	2.12	2.54
Solihull	4.35	4.35
Staffordshire	1.51	1.20
Stoke-on-Trent	2.08	2.08
Telford and Wrekin	3.93	3.14
Walsall	2.50	2.50
Warwickshire	2.30	2.76
Wolverhampton	1.56	1.56
Worcestershire	2.65	2.65
EAST		
Bedfordshire	4.42	3.47
Cambridgeshire	1.04	0.83
Essex	1.76	1.57
Hertfordshire	2.27	2.27
Luton	7.69	9.09
Norfolk	2.06	2.20
Peterborough	5.56	7.15
Southend-on-Sea	7.79	7.79
Suffolk	3.21	2.85
Thurrock	0.87	0.87
LONDON		
Inner London		
Camden	9.49	11.60
City of London	0.00	0.00
Hackney	2.48	3.73
Hammersmith and Fulham	7.28	10.59
Haringey	2.77	2.77
Islington	9.89	11.21
Kensington and Chelsea	2.39	0.60
Lambeth	5.46	5.46
Lewisham	5.06	4.56
Newham	0.54	1.07
Southwark	5.28	5.28
Tower Hamlets	3.57	3.57

Drug and Alcohol Action Team	Annual death rate per 100,000 population – usual area of residence	Annual death rate per 100,000 population – place of death
Wandsworth	0.84	0.00
Westminster	0.94	0.47
Outer London		
Barking and Dagenham	-	-
Barnet	3.41	3.03
Bexley	1.14	0.57
Brent	3.65	4.11
Bromley	0.00	0.00
Croydon	2.57	2.94
Ealing	3.28	3.28
Enfield	0.90	1.80
Greenwich	6.07	4.41
Harrow	0.00	0.00
Havering	-	-
Hillingdon	3.98	3.48
Hounslow	5.88	5.29
Kingston-upon-Thames	5.60	7.20
Merton	0.63	0.00
Redbridge	-	-
Richmond-upon-Thames	7.26	8.58
Sutton	2.83	3.53
Waltham Forest	1.13	-
SOUTH EAST		
Bracknell Forest	-	-
Brighton and Hove	18.28	18.74
Buckinghamshire	2.88	3.14
East Sussex	4.18	4.67
Hampshire	2.26	1.87
Isle of Wight	6.90	6.90
Kent	1.55	1.46
Medway towns	4.55	4.04
Milton Keynes	2.92	4.09
Oxfordshire	1.18	1.38
Portsmouth	7.08	6.44
Reading	-	-
Slough	1.08	-
Southampton	9.80	11.98
Surrey	2.99	2.53
West Berkshire	-	-
West Sussex	4.34	4.02
Windsor and Maidenhead	-	-
Wokingham	-	-
SOUTH WEST		
Bath and North East Somerset	0.70	0.70
Bournemouth	13.11	13.84
Bristol	3.36	3.36
Cornwall & Isles of Scilly	3.27	3.27
Devon	4.30	3.81
Dorset	3.62	2.72
Gloucestershire	2.36	2.36
North Somerset	3.15	3.78
Plymouth	-	-
Poole	5.32	7.98
Somerset	2.86	2.86

Drug and Alcohol Action Team	Annual death rate per 100,000 population – usual area of residence	Annual death rate per 100,000 population – place of death
South Gloucestershire	0.50	0.50
Swindon	0.68	0.68
Torbay	1.82	3.64
Wiltshire	0.00	0.00
WALES		
Bro Taf	1.21	1.21
Dyfed Powys	1.98	1.98
Gwent	2.04	1.82
Iechyd Morgannwg	3.78	4.54
North Wales	2.58	2.21

Note: In addition there were a number of cases that could not be allocated to specific DA(AT) areas because they were of no fixed abode and/or the jurisdiction in which the inquest was held covers more than one DA(AT).

Annex AR5: Profile of cases In England and Wales meeting criteria for monitoring the Government's drug strategy, 2006

Introduction

This annex has been compiled at the request of the Department of Health (England) to monitor cases against the Government's drug strategy definition. Whilst the official target is being measured by reference to figures compiled by the Office for National Statistics (ONS), information generated by cases notified by coroners to the np-SAD can complement their data.

Definition of cases

The definition of a drug-related death adopted for the Government's drug strategy is somewhat narrower than that for an np-SAD case (see Section II above). It is possible to derive information on this narrower basis by operationalising the np-SAD case definition using the method described below. The np-SAD approach is to exclude two specific categories from its case definition; those remaining are regarded as meeting the criteria for the Government's definition. The two categories excluded from the np-SAD cases are; (a) deaths of non-drug abusers where no Controlled Drugs were found at post mortem or where a specific compound analgesics was found at post mortem; and (b) deaths of drug abusers where no Controlled Drugs were found at post mortem or where a specific compound analgesics was found at post mortem and the mechanism of death was hanging, drowning, accident, etc.

For the purposes of this annex, the np-SAD has closely followed the same approach as the Office for National Statistics and the General Register Office for Scotland in

respect of the compound analgesics not treated as Controlled Drugs, the exception being that of codeine. This cannot be excluded from our consideration because it is a by-product of the degeneration of heroin in the body and thus may represent the consumption of heroin rather than codeine. This will not have affected many cases.

Profile of cases

The following analysis looks at deaths occurring in England and Wales during 2006 which meet the above selection criteria (1,105/1,345 or 82.1% of all cases reported to the Programme). Demographic details and a summary of principal drugs implicated in death are presented below.

1. Demography

The majority of cases were male (81%). The median age at death was 36.0 years (semi-inter quartile range = 7.8), with about four-fifths (77%) being under the age of 45 years. Where ethnicity was known, the vast majority (95.3%) were White. Where addict status was known, the majority (74.4%) had a history of drug-dependence or abuse. Just over half (52%) of cases were unemployed and 47% of cases were living alone or in no fixed abode at the time of their death (Table AR5.1).

2. Location of death

The majority of cases (69%) died at a defined residential address (e.g. the deceased's home address or other private residential address), just under one-quarter (22%) died in hospital and the remainder (9%) died elsewhere (e.g. in a public place).

Table AR5.1: Demographic variables for death reported to np-SAD meeting the criteria for monitoring the Government's drug strategy, England & Wales, 2006

Variable	Category	Number (%)
Total		1,105 (100.0)
Gender	Male	893 (80.8)
	Female	212 (19.2)
Employment status	Unemployed	575 (52.0)
	Employed	356 (32.2)
	Childcare/house person	8 (0.7)
	Student	20 (1.8)
	Retired/sickness/invalidity	85 (7.7)
	Other	1 (0.1)
	Not known	60 (5.4)
Living arrangements	Alone	454 (41.1)
	With others	462 (41.8)
	No fixed abode	57 (5.2)
	Other	51 (4.6)
	Not known	81 (7.3)

3. Substances implicated in death

Psychoactive substances were implicated in 1,026/1,105 deaths (92.9%). The principal substances implicated in drug-related deaths were: heroin/morphine (56%) and alcohol in combination with other drugs (33%). Other classes of drugs making a sizeable

contribution (in excess of 10%) to deaths were: other opiates/opioid analgesics; methadone; hypnotics/ sedatives; cocaine; and anti-depressants. Heroin/morphine as the sole implicated drug accounted for 23% of deaths. The breakdown of psychoactive substances implicated in death is presented in Table AR5.2.

Table AR5.2: Psychoactive substances implicated in deaths reported to np-SAD meeting the criteria for monitoring the Government's drug strategy, England & Wales, 2006

Drug category	Number of cases where no other substance was implicated	Number of cases where drug was implicated
	No. (%)	No. (%)
Total of cases with psychoactive drug implicated	1,026	1,026
Alcohol-in-combination ⁽¹⁾	-	338 (32.9)
Amphetamines	14 (1.4)	46 (4.5)
Anti-depressants	12 (1.2)	104 (10.1)
Anti-epileptics	3 (0.3)	14 (1.4)
Anti-psychotics	3 (0.3)	29 (2.8)
Cannabis	2 (0.2)	25 (2.4)
Cocaine	30 (2.9)	135 (13.2)
Ecstasy-type drugs	16 (1.6)	42 (4.1)
GHB	1 (0.1)	7 (0.7)
Heroin/morphine	232 (22.6)	571 (55.7)
Hypnotic/sedatives	13 (1.3)	172 (16.8)
Methadone	72 (7.0)	213 (20.8)
Other opiates/opioid analgesics	42 (4.1)	203 (19.8)

(1) Alcohol on its own does not meet the criteria for an np-SAD case.

4. Age and drug implicated in death

In cases aged 15-44 years, heroin/morphine (60.5%) was the most frequently mentioned

drug contributing to fatality. In those aged 45 years and over, alcohol-in-combination (33.9%) were the most frequently mentioned as being implicated (Table AR5.3).

Table AR5.3: Age and drug implicated in deaths reported to np-SAD meeting the criteria for monitoring the Government's drug strategy, England & Wales, 2006

Age-group (years)	Number (%)	Drug category (alone or in combination) most frequently implicated in each age group
All ages	1,026 (100.0)	Heroin/morphine (55.7%)
14 & under	0 (0.0)	-
15-24	138 (13.5)	Heroin/morphine (55.8%)
25-34	341 (33.2)	Heroin/morphine (64.2%)
35-44	314 (30.6)	Heroin/morphine (58.6%)
45-54	143 (13.9)	Heroin/morphine (48.3%)
55-64	56 (5.5)	Alcohol-in-combination (39.3%)
65 & over	34 (3.3)	Other opiates/opioid analgesics (52.9%)

5. Underlying cause(s) of death

The proportions of ICD-10 categories of underlying cause of death were as follows:

- Accidental poisoning (X40-X47): 68.5%
- Intentional self-poisoning (X60-X67): 7.8%
- Poisonings of undetermined intent (Y10-Y14): 13.7%
- Other (e.g. natural causes, drowning, hanging, unascertained): 10.0%

6. Manner of death

The manner of death in these cases was considered to be as follows:

- Natural: 2.0%
- Accidental: 72.8%
- Suicidal: 9.6%
- Homicidal: 0.0%
- Undetermined: 14.7%
- Unclassified/not specified: 1.0%

Annex AR6: Drug-related deaths reported to the Scottish Crime and Drug Enforcement Agency, 2006

This section describes the pattern of drug-related deaths in Scotland. The Scottish Crime and Drug Enforcement Agency collate data on drug-related deaths obtained from Scottish police forces. Drug-related death cases are those that meet the definition used by the Association of Chief Police Officers (Scotland) – “where there is prima facie evidence of a fatal overdose of controlled drugs. Such evidence would be recent drug misuse, for example controlled drugs and/or a hypodermic syringe found in close proximity to the body and/or the person is known to the police as a drug misuser although not necessarily a notified addict.” Thus, most suicides in Scotland are excluded.

1. Demography

Notifications of 374 drug-related deaths occurring in 2006 were received by the SCDEA, covering the following police force areas: Central Scotland (4.3%); Dumfries & Galloway (0.8%); Fife (5.3%); Grampian (12.8%); Lothian & Borders (11.2%); Northern (1.9%); Strathclyde (56.1%); and Tayside (7.5)%.

The majority (81%) of cases were male (Table AR6.1). The median age at death was 33.3 years (semi-interquartile range = 6.9) (Figure AR6.1). The majority (90%) of cases were under 45 years. Where ethnicity was known, the majority were White (99%).

Table AR6.1: Demographic variables for SCDEA drug-related deaths, 2006

Variable	Category	No	%
Total		374	100.0
Gender	Male	304	81.3
	Female	70	18.7
Living arrangements	Alone	126	33.7
	With others	157	42.0
	No fixed abode	10	2.7
	Other	42	11.2
	Not known	39	10.4

2. Location of death

The majority of fatalities (90%) occurred at a defined residential address (i.e. the deceased's home address or other private residential address), 3% died in hospital and 7% died elsewhere (e.g. in a public place).

3. Cause(s) of death

The majority of fatalities (96%) were due to accidental (i.e. clearly non-deliberate) poisoning. Deaths due to natural causes or poisonings of undetermined intent accounted for the remaining cases.

4. Substances implicated in death

4.1 All substances

Psychoactive drugs were not directly implicated in about 4.5% of cases (n = 17). Of the remaining 357 cases, the principal substances implicated were: heroin/morphine (71%); methadone (24%); alcohol in combination with other substances (24%); hypnotics/sedatives (16%); cocaine (8%); and other opiates/opioid analgesics (8%) (Table AR6.2).

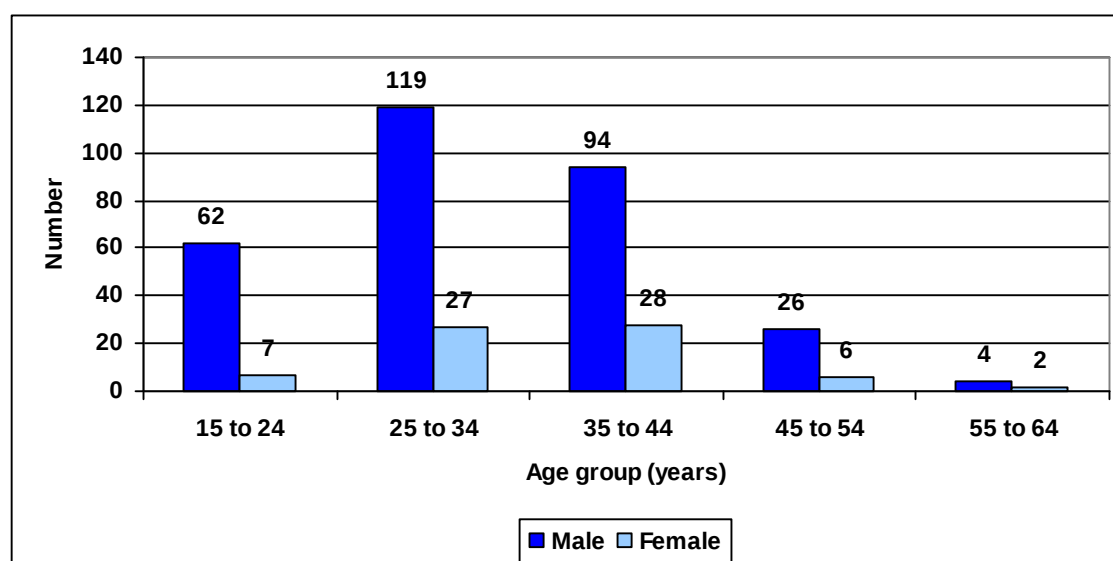
Figure AR6.1: SCDEA drug-related deaths, by age and gender, 2006

Figure AR6.2 takes into account data where one of the following drugs was known to be implicated: alcohol-in-combination; anti-depressants; cocaine; ecstasy-type drugs; heroin/morphine; hypnotics/sedatives; methadone; or other opiates/opioid analgesics.

4.2 Single substances

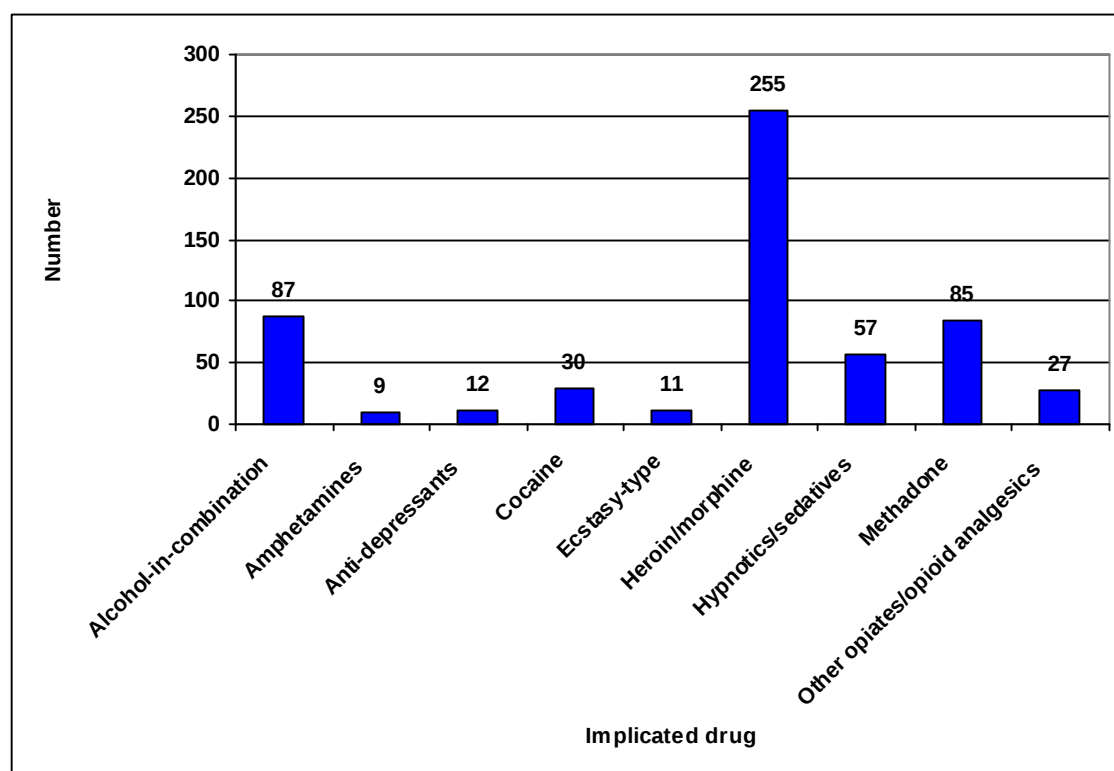
The following substances, as the sole implicated drug, accounted for 189 (53%) deaths: heroin/morphine (34%); methadone (11%); cocaine (3%); other opiates/opioid analgesics (2%); and amphetamines (1%) (Table AR6.2).

Table AR6.2: Psychoactive substances implicated in SCDEA drug-related deaths, 2006

Drug category	Number (%) of cases where no other substance was implicated	Number (%) of cases where drug was implicated*
Total	357 (100.0)	357 (100.0)
Alcohol-in-combination	-	87 (24.4)
Amphetamines	5 (1.4)	9 (2.5)
Anti-depressants	1 (0.3)	12 (3.4)
Anti-epileptics	0 (0.0)	2 (0.6)
Anti-Parkinsons	0 (0.0)	1 (0.3)
Anti-psychotics	1 (0.3)	3 (0.8)
Cocaine	12 (3.4)	30 (8.4)
Ecstasy-type drugs	3 (0.8)	11 (3.1)
Heroin/morphine	120 (33.6)	255 (71.4)
Hypnotic/sedatives	1 (0.3)	57 (16.0)
Methadone	38 (10.6)	85 (23.8)
Other opiates/opioid analgesics	8 (2.2)	27 (7.6)

Note: Column totals may sum to more than 100% since more than one substance may be implicated in a death.

Figure AR6.2: SCDEA drug-related deaths, by psychoactive drug implicated, 2006



5. Age and drug implicated in death

In cases aged 15 years and over, heroin/morphine was the most frequently

mentioned drug contributing to fatality (Table AR6.3). This was also the case for all of the individual age-groups.

Table AR6.3: Age and psychoactive drug implicated in SCDEA drug-related deaths, 2006

Age-group (years)	Number (%)	Drug category (alone or in combination) most frequently implicated in each age group
All ages	374 (100.0)	Heroin/morphine (68.2%)
14 & under	0 (0.0)	-
15–24	69 (18.4)	Heroin/morphine (60.9%)
25–34	146 (39.0)	Heroin/morphine (75.2%)
35–44	122 (32.6)	Heroin/morphine (69.4%)
45–54	31 (8.3)	Heroin/morphine (48.4%)
55–64	6 (1.6)	Heroin/morphine (83.3%)

6. Gender and drug implicated in death

In males and females, heroin/morphine was the most frequently mentioned drug, accounting for 72% and 53% of fatalities respectively. However, the pattern of other drug-specific fatality was somewhat different in male and female cases.

Among males, the most frequently mentioned drugs were: heroin/morphine (72%); alcohol-in-combination (25%); and methadone (20%). Furthermore, there was a higher proportion of cases of drug-specific fatality among males compared to females in respect of heroin/morphine (72% vs. 53%); alcohol-in-combination (25% vs. 17%); hypnotics/sedatives (16% vs. 11%); cocaine (9% vs. 6%); and ecstasy-type drugs (3% vs. 1%).

Among female cases, the most frequently mentioned drugs were: heroin/morphine (53%); alcohol in combination (17%); methadone (37%) and other opiates/opioid

analgesics (10%). Compared to male cases, female cases had a higher proportion of fatality associated with methadone (37% vs. 20%), other opiate/opioid analgesics (10% vs. 7%); and anti-depressants (9% vs. 2%).

7. Regional patterns

The number of drug-related deaths reported by police to the SCDEA and meeting the np-SAD case criteria fell from 312 in 2004 to 254 in 2005 (including an additional 15 cases notified since last year's report). The figure for 2006 was 374; this represents an increase of 42%. Whilst most of this was due to increases in the number reported for Strathclyde Police and Grampian Police, there were increases in the Central Scotland, Fife and Tayside police force areas (Table AR6.4). The 2004 and 2006 rates in the Strathclyde and Grampian police force areas are on a par with the higher rates reported in England and Wales (except Blackpool & the Fylde, Brighton & Hove and Western Cumbria).

Table AR6.3: SCDEA deaths per 100,000 population, by police force area, 2004-6

Police force area	Number of deaths 2004	Annual death rate per 100,000 population 2004 ⁽¹⁾	Number of deaths 2005	Annual death rate per 100,000 population 2005 ⁽¹⁾	Number of deaths 2006	Annual death rate per 100,000 population 2006 ⁽¹⁾
Central Scotland Police	12	5.27	9	3.91	16	6.90
Dumfries & Galloway Constabulary	6	4.93	4	3.27	3	2.45
Fife Constabulary	13	4.51	14	4.82	20	6.82
Grampian Police	40	9.34	24	5.58	48	11.03
Lothian & Borders Police	33	4.35	43	5.79	42	5.58
Northern Constabulary	5	2.21	7	3.05	7	3.02
Strathclyde Police	188	10.48	145	8.06	210	11.63
Tayside Police	15	4.71	18	5.62	28	8.68
Scotland	312	7.53	264	6.34	374	8.92

(1) The rate per 100,000 population is based on published mid-year population estimates for local government administrative areas for the years in question.

Annex AR7: Drug-related deaths recorded by the Northern Ireland Statistics and Research Agency (NISRA), 2006

This section describes the pattern of drug-related deaths in Northern Ireland. The Northern Ireland Statistics and Research Agency (NISRA) provided the data analysed in this section, from registrations recorded by the General Register Office for Northern Ireland. Coroners in Northern Ireland routinely submit returns on drug-related deaths after conducting an inquiry, similar to that in England and Wales.

1. Demography

Notifications of 22 drug-related deaths occurring in 2006 were received from NISRA which meet the np-SAD case criteria. The number of such deaths in 2004 was 55, and

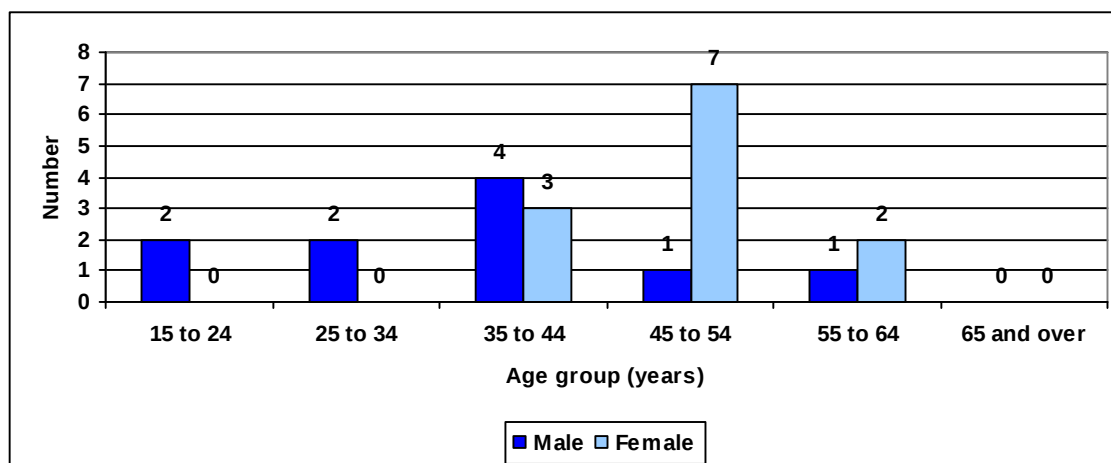
that in 2005 was 52. However, the number of drug-related deaths varies greatly from year to year in Northern Ireland. There is also a large backlog of inquests which means that further deaths for 2006 may be subsequently notified to the NISRA by coroners. In 2006 there was a rate of 1.62 drug-related deaths per 100,000 population aged 16 years and over, compared with 4.14 in 2004 and 3.87 in 2005. These rates are low by comparison with the rest of the UK.

The majority (12/22) of the cases in 2006 were female (Table AR7.1). The median age at death was 45.1 years (semi-interquartile range = 6.7) (Figure AR7.1). Half (50%) of cases were under 45 years.

Table AR7.1: Demographic variables for drug-related deaths reported to NISRA meeting np-SAD criteria, UK, 2006

Variable	Category	Number (n = 22)
Gender	Male	10
	Female	12
Employment status	Employed	13
	Unemployed	2
	Childcare/house person	4
	Retired/sickness/invalidity	1
	Not known	1

Figure AR7.1: Drug-related deaths reported to NISRA meeting np-SAD criteria, by age and gender, 2006



2. Location of death

All fatalities (n = 22) occurred at a defined residential address (i.e. the deceased's home address or other private residential address).

3. Cause(s) of death

Eleven cases died from accidental poisoning, and eleven from intentional self-poisoning.

4. Substances implicated in death

4.1 All substances

Psychoactive drugs were directly implicated in all 22 cases. The principal substances implicated were: other opiates/opioid analgesics (12); anti-depressants (10); alcohol-in-combination (10); hypnotics/

sedatives (8); anti-psychotics (3); heroin/morphine (1), and cannabis (1) (Table AR7.2).

Figure AR7.2 takes into account data where one of the following drugs was known to be implicated: alcohol-in-combination; anti-depressants; cocaine; ecstasy-type drugs; heroin/morphine; hypnotics/sedatives; methadone; or other opiates/opioid analgesics.

4.2 Single substances

The following substances, as the sole implicated drug, accounted for 6/22 deaths where at least one drug was directly implicated: anti-depressants (3); heroin/morphine (1); hypnotic/sedatives (1); and other opiates/opioid analgesics (1) (Table AR7.2).

Table AR7.2: Psychoactive substances implicated in deaths reported to NISRA meeting np-SAD criteria, 2006

Drug category	Number of cases where no other substance was implicated (N = 22)	Number of cases where drug was implicated (N = 22)
Alcohol-in-combination	-	10
Amphetamines	0	0
Anti-depressants	3	10
Anti-psychotics	0	3
Cannabis	0	1
Cocaine	0	0
Ecstasy-type drugs	0	1
Heroin/morphine	1	1
Hypnotic/sedatives	1	8
Methadone	0	0
Other opiates/opioid analgesics	1	12

5. Age and drug implicated in death

In cases aged 25-34 and 45-54 years, Other opiates/opioid analgesics was the most

frequently mentioned drug contributing to fatality (Table AR7.3).

Figure AR7.2: Drug-related deaths reported to NISRA meeting np-SAD criteria, by psychoactive drug implicated, 2006

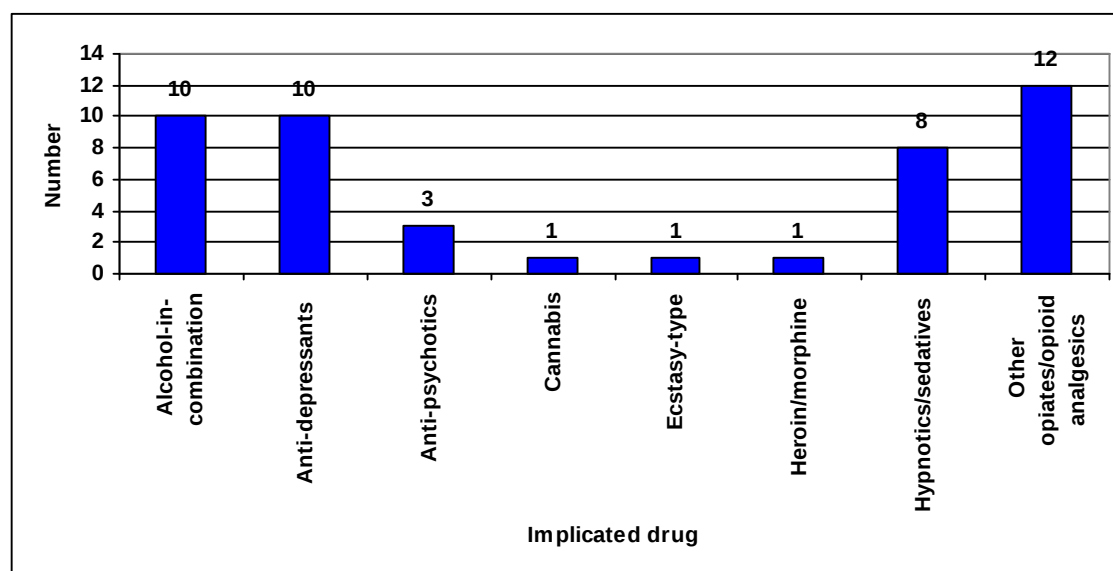


Table AR7.3: Age and psychoactive drug implicated in deaths reported to NISRA meeting np-SAD criteria, 2006

Age-group (years)	Number (n = 22)	Drug category (alone or in combination) most frequently implicated in each age group
14 & under	-	-
15-24	2	Other opiates/opioid analgesics (2)
25-34	2	Alcohol-in-combination (1) Anti-depressants (1) Anti-psychotics (1)
35-44	7	Other opiates/opioid analgesics (4)
45-54	8	Other opiates/opioid analgesics (4)
55-64	3	Alcohol-in-combination (2)
65 & over	-	-

6. Gender and drug implicated in death

The pattern of other drug-specific fatality was somewhat different in male and female cases. Among males, the most frequently mentioned drugs were anti-depressants (5/10); other opiates/opioid analgesics (4/10); alcohol-in-combination (4/10); and hypnotics/sedatives (3/10).

Among female cases, the drugs mentioned were other opiates/opioid analgesics (8/12); alcohol-in-combination (6/12); anti-depressants (5/12) and hypnotics/sedatives (5/12). Compared to male cases, female cases had a higher proportion of fatality associated with other opiates/opioid analgesics (8/12 vs. 4/10); and hypnotics/sedatives (5/12 vs. 3/10). Furthermore, there were no fatalities due to cannabis, heroin/morphine, and ecstasy-type drugs among females.

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np-SAD Surveillance Report No. 19

July – December 2006

Key Points

Surveillance Report No. 19: July - December 2006

- ◆ A total of 735 inquests into drug-related deaths were reported to the np-SAD for the period July to December 2006 by the end of June 2007. Information was submitted by 100 out of 117 coroners in England & Wales, as well as Northern Ireland, Guernsey, Jersey, the Isle of Man, together with one Procurator Fiscal in Scotland. This number of inquests represents a decrease of 7.8% over the same period in 2005 (797 inquests).
- ◆ The demographic profile remains consistent with that of previous reports. The majority of cases were males (75%), under the age of 45 years (71%), and White (96%).
- ◆ The principal underlying cause(s) of death were: accidental poisoning (60%); poisoning of undetermined intent (16%); and intentional self-poisoning (12%).
- ◆ The following jurisdictions recorded the highest semi-annual drug-related death rate per 100,000 population aged 16 years and over: Brighton & Hove (10.8); Western Cumbria (10.2); Blackpool & the Fylde (5.5); Southampton & the New Forest (5.5); Teesside 95.4); and Newcastle-upon Tyne 95.3).
- ◆ Compared to the same period in 2005, the following changes were observed:
 - A 7.8% decrease in the number of inquests into drug-related deaths
 - An increase in the proportion of cases living alone from 37% to 43%, and a decrease in the proportion living with others from 46% to 42%
 - An increase in the proportion of cases with a history of drug addiction from 63% to 66%
 - A decrease in the proportion of cases receiving prescribed drugs from 56% to 52%
 - An increase in inquests where death was due to amphetamines from 20 to 27
 - An increase in the involvement of alcohol in inquests concerning drug-related deaths from 194 to 230
 - An increase in inquests where hypnotics/sedatives were implicated in death from 90 to 96
 - A decrease in inquests in which cannabis was implicated in death from 22 to 9
 - A decrease in inquests where death was due to other opiates/opioid analgesics from 176 to 154

XI Introduction

A total of 100 out of 117 coroners' jurisdictions in England and Wales provided returns for this surveillance report, which covers returns made to the np-SAD for the period July to December 2006, received before the end of June 2007. Some coroners did not provide 'nil returns' (confirmation from coroners that there were no inquests involving drug-related deaths for that period). In addition, coroners in Northern Ireland, Guernsey, Jersey and the Isle of Man, together with the Procurator Fiscal for Dumbarton in Scotland, contributed data during this period. No information from the General Register Office for Northern Ireland or from the Scottish Drugs Enforcement Agency (SCDEA) is included in this surveillance report.

Overall, this report covers approximately 89% of jurisdictions in England and Wales, as well as the Isle of Man and Channel Islands. There are a number of possible reasons for not reporting. For example, the coroners' workload may prevent the notification of inquests, or there may be an assumption that a 'nil return' does not have to be reported. This highlights the importance of maintaining and resourcing a surveillance system to which coroners are willing and able to contribute on a continuous basis. There is also a need to provide appropriate training and resources to enable coroners to co-operate effectively with the requirements of a surveillance system.

XII Profile of cases

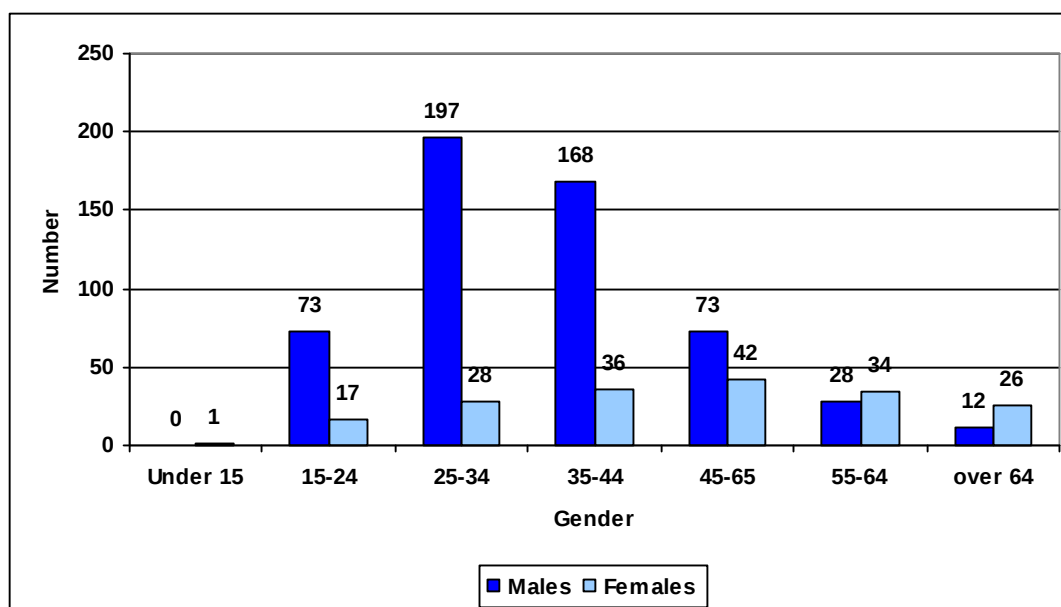
1. Demography

A total of 735 drug-related deaths were reported to the programme for the period July to December 2006. The majority of cases (75%) were male (n = 551). The majority of cases (71%) were aged less than 45 years. The median age at death was 37.1 years (semi-interquartile range 8.9) (Figure

9). Where ethnicity was known, the vast majority of cases were White (96.4%); with the rest being described as Black (1.5%), Asian (0.8%), and Other (1.2%). Just under half (48%) of cases were unemployed. Approximately 42% of cases were living with others at the time of their death; a similar proportion were living alone (Table 10).

Table 10: Demographic variables, np-SAD inquests, July-December 2006

Variable	Category	Number (%)
Total		735 (100.0)
Gender	Male	551 (75.0)
	Female	184 (25.0)
Employment status	Unemployed	353 (48.0)
	Employed	229 (31.2)
	Childcare/houseperson	11 (1.5)
	Student	18 (2.4)
	Retired/sickness/invalidity	77 (10.5)
	Other	4 (0.5)
	Not Known	43 (5.9)
Living arrangements	Alone	313 (42.6)
	With others	311 (42.3)
	No fixed abode	29 (3.9)
	Other	32 (4.4)
	Not known	50 (6.8)

Figure 9: np-SAD inquests by age and gender, July-December 2006

2. Drug-related death rates

The following jurisdictions recorded the highest semi-annual drug-related death rate per 100,000 population aged 16 years and over: Brighton & Hove (10.8); Western Cumbria 910.2); Blackpool & the Fylde (5.5); Southampton & the New Forest (5.5); Teesside (5.4); and Newcastle-upon-Tyne (5.3) (Annex SR2). The highest proportions of drug-related cases expressed as a percentage of the total number of inquests held were: Brighton & Hove (11.5%); Western Cumbria (10.3%); Bournemouth, Poole & Eastern Dorset 99.5%); Southampton & the New Forest (9.3%); Jersey (8.3%); Blackpool & the Fylde (6.9%); the Isle of Wight (6.9%); and North East Hampshire (6.4%).

3. Location of death

Location of death was reported in all but one case. Where the location was known, 67% of cases died in a defined residence (i.e. the deceased's home address or other private residential address), 26% died in hospital and 7% died elsewhere (e.g. in a public place).

4. Underlying cause(s) of death

To enable comparison with various national and international data-sets all causes of death have been coded according to the International Classification of Diseases (ICD-

10). This is an international standard for the classification of diseases and health related problems published by the World Health Organisation (1992). The proportions of ICD-10 categories of underlying cause(s) of death were as follows:

- Accidental poisoning (X40-X47): 60.4%
- Intentional self-poisoning (X60-X67): 12.4%
- Poisonings of undetermined intent (Y10-Y14): 16.2%
- Other (e.g. natural causes, drowning, hanging, unascertained): 11.0%

5. Manner of death

The manner of death in these cases was considered to be as follows:

- Natural: 1.6%
- Accidental: 66.4%
- Suicidal: 14.3%
- Homicidal: 0.0%
- Undetermined: 17.0%
- Unclassified/not specified: 0.7%

6. Substances implicated in death (Table 11)

6.1 All substances

Psychoactive substances were implicated in 92.7% of cases (n = 681). The principal substances implicated in fatalities were: heroin/morphine (45%), alcohol in

combination with other substances (34%), other opiates/opioid analgesics (23%), anti-depressants (17%), methadone (16%), hypnotic/sedatives (14%), and cocaine (12%).

6.2 Single substances

The following substances, as the sole implicated drug, accounted for 296 (43%) deaths: heroin/morphine (19%); other opiates/opioid analgesics (5%); anti-depressants (5%); methadone (5%), and cocaine (3%) (Table 11).

7. Prescribed psychoactive medication (Table 12)

Three hundred and eight-one cases were known to be receiving prescribed psychoactive medication at the time of their death. Prescribed medications were reported in the following proportions for these therapeutic drug classes: anti-depressants 49%; hypnotic/sedatives 43%; other opiates/opioid analgesics 25%; anti-psychotics 17%; methadone 14%; and anti-epileptics 8%. 'Polypharmacy' i.e. multiple prescriptions of psychoactive drugs, occurred in 68% of these cases.

Table 11: Psychoactive substances implicated in death, np-SAD inquests, July-December 2006

Drug category	Number (%) of cases where no other substance implicated	Number (%) of cases where drug implicated
Total	681 (100.0)	681 (100.0)
Alcohol	-	230 (33.8)
Amphetamines	8 (1.2)	27 (4.0)
Anti-depressants	36 (5.3)	117 (17.2)
Anti-epileptics	3 (0.4)	12 (1.8)
Anti-psychotics	10 (1.5)	31 (4.6)
Cannabis	2 (0.3)	9 (1.3)
Cocaine	21 (3.1)	81 (11.9)
Ecstasy-type drugs	12 (1.8)	26 (3.8)
GHB	1 (0.1)	4 (0.6)
Heroin/morphine	127 (18.6)	304 (44.6)
Hypnotic/sedatives	6 (0.9)	96 (14.1)
Methadone	37 (5.4)	108 (15.9)
Other opiate/opioid analgesics	33 (4.8)	154 (22.6)

Note: Column totals may sum to more than 100% since more than one substance may be implicated in a death.

Table 12: Prescribed psychoactive medication, np-SAD inquests, July-December 2006

Drug category	Number (%) of cases on prescribed psychoactive medication	Number (%) of cases where same drug implicated in death
Total	381 (100.0)	
Amphetamines	0 (0.0)	0 (0.0)
Anti-depressants	186 (48.8)	83 (44.6)
Anti-epileptics	31 (8.1)	5 (16.1)
Anti-psychotics	65 (17.1)	22 (33.8)
Heroin/morphine	16 (4.2)	13 (81.3)
Hypnotic/sedatives	164 (43.0)	45 (27.4)
Methadone	54 (14.2)	29 (53.7)
Other opiates/opioid analgesics	94 (24.7)	48 (51.1)

Note: Column totals may sum to more than 100% since more than one substance may be prescribed to an individual and more than one substance may be implicated in a death.

XIII Associated risks

1. Prescribed psychoactive drugs

Of the 391 cases prescribed psychoactive medication (52% of cases) at the time of their death, 64.8% had those same drugs implicated in their death (Table 12).

1.1 Methadone

Methadone, alone and in combination with other drugs, was implicated in 108 cases. Of these, 73% may have obtained methadone illicitly, compared to the 27% who were known to be receiving prescribed methadone prior to their death (Percentage Ratio (PR): = 2.7, 95% Confidence Interval (CI) = 2.0 - 3.8).

Methadone alone was implicated in 37 cases. Of these, 70% may have obtained methadone illicitly, whilst 30% were prescribed the drug (Percentage Ratio (PR): = 2.4, 95% Confidence Interval (CI) = 1.4 - 4.0).

More methadone deaths seem to have arisen from illicit sources than from prescription sources. Altogether, methadone-related deaths still appear to more likely to arise from illicit than prescribed methadone.

1.2 Anti-depressants

Anti-depressants, alone and in combination with other drugs, were implicated in 117 cases. Of these, 71% were known to be receiving prescribed antidepressants at the time of their death, compared to 29% who used drugs that may have been prescribed for others (PR = 2.4, 95% CI = 1.8 - 3.3).

Anti-depressants alone were implicated in 36 cases. Of these, 78% were known to be receiving prescribed medication, compared to 22% who had used drugs that may have been prescribed for others (PR = 3.5, 95% CI = 1.9 - 6.6).

This indicates that those receiving prescribed anti-depressants were significantly more likely to have that class of drug implicated in their death, either in combination or as the sole drug.

1.3 Other opiates/opioid analgesics

Other opiates/opioid analgesics (e.g. dihydrocodeine, dextropropoxyphene) alone and in combination with other drugs, were implicated in 154 cases. Of these, 69% may have obtained the drug by other means, compared to the 31% who were known to be receiving prescribed opiates/opioid analgesics prior to their death (PR = 2.2, 95% CI = 1.7 - 2.9).

Other opiates/opioid analgesics alone were implicated in 33 cases. Of these, the drugs were known to be prescribed in 48% of cases and could have been obtained by other means in 52% of cases.

The risk of fatality from other opiate/opioid analgesics was equally likely to occur in those prescribed these drugs and in those who obtained them from other sources.

1.4 Hypnotic/sedatives

Hypnotic/sedatives, alone and in combination with other drugs, were implicated in 96 cases. Of these, 47% were known to be receiving a prescription for this class of drug, compared to 53% who could have obtained them illicitly (PR = 1.1, 95% CI = 0.7 - 1.7).

Six cases had hypnotic/sedatives alone implicated in their death, three of whom had received this drug category via prescription.

2. Gender and underlying cause(s) of death

Males were more likely than females to die of accidental poisoning (65.5% vs. 45.1%) (PR = 1.5, 95% CI = 1.2 - 1.7). Females, by contrast, were more likely than males to die of intentional self-poisoning (22.3% vs. 9.1%) (PR = 2.5, 95% CI = 1.7 - 3.6), and poisoning of undetermined intent (24.5% vs. 13.4%) (PR = 1.8, 95% CI = 1.3 - 2.5).

3. Gender and manner of death

A similar pattern is exhibited with regard to manner of death. Males were more likely than females to die an accidental death (72.6% vs. 47.8%) (PR = 1.5, 95% CI = 1.3 - 1.8). Conversely, females were more likely than males to die a suicidal death (24.5% vs.

10.9%) (PR = 2.2, 95% CI = 1.6 - 3.2), or a death where the manner was undetermined (25.5% vs. 14.2%) (PR = 1.8, 95% CI = 1.3 - 2.5).

4. Age and underlying cause(s) of death

Those aged less than 45 years were more likely than older individuals to die of accidental poisoning (68.1% vs. 41.9%) (PR = 1.6, 95% CI = 1.4 - 1.9). Those aged 45 years or over, by contrast, were more likely than younger individuals to die of intentional self-poisoning (24.7% vs. 7.3%) (PR = 1.7, 95% CI = 1.2 - 2.5), and poisoning of

undetermined intent (22.8% vs. 13.5%) (PR = 1.7, 95% CI = 1.2 - 2.4).

5. Age and manner of death

A similar pattern is exhibited with regard to manner of death. Those aged less than 45 years were more likely than older individuals to die an accidental death (75.2% vs. 45.1%) (PR = 1.7, 95% CI = 1.4 - 1.9). Conversely, those aged 45 years or over were more likely than younger individuals to die a suicidal death (27.9% vs. 8.7%) (PR = 3.2, 95% CI = 2.3 - 4.6), or a death where the manner was undetermined (24.7% vs. 13.8%) (PR = 1.8, 95% CI = 1.3 - 2.4).

Table 13: Age and psychoactive drug implicated in death, np-SAD inquests, July–December 2006

Age group (years)	Number (%)	Drug category (alone or in combination) most frequently implicated with age group
Total	681 (100.0)	Heroin/morphine (44.6%)
Under 15	1 (0.1)	Methadone (1)
15 – 24	84 (12.3)	Heroin/morphine (44.0%)
25 – 34	211 (31.0)	Heroin/morphine (59.2%)
35 – 44	185 (27.2)	Heroin/morphine (50.8%)
45 – 54	108 (15.9)	Alcohol-in-combination (37.0%)
55 – 64	59 (8.7)	Anti-depressants (45.8%)
65 and over	33 (4.8)	Other opiates/opioid analgesics (52.6%)

6. Age and drug implicated in death

The most frequently implicated drugs among cases aged 44 years and under were opiates, notably heroin/morphine (53%), other opiates/opioid analgesics (18%), and methadone (18%). Alcohol-in-combination (35%) also featured prominently. Other opiates/opioid analgesics (35%), alcohol-in-combination (32%), anti-depressants (31%), and heroin/morphine (24%) were most frequently implicated in cases aged over 45 years (Table 13).

7. Gender and drug implicated in death

The following substances, alone or in combination with substances, were implicated in deaths as below.

Male: heroin/morphine 51%; alcohol-in-combination 35%; other opiates/opioid analgesics 19%; methadone 16%, cocaine 13%; hypnotic/sedatives 13%, and anti-depressants 12% of cases.

Female: other opiates/opioid analgesics 34%; anti-depressants 32%; alcohol-in-combination 29%; heroin/morphine 26%; hypnotic/sedatives 17%; and methadone 14% of cases.

XIV Drug abuse/dependence

Cases with a history of drug abuse/dependence ($n = 385$) were compared to those without such a history ($n = 202$) on the following variables: demography, location of death, underlying cause(s) and manner of death. One hundred and forty-eight cases (20%) were reported as 'not known' with respect to history of drug abuse/dependence. They were excluded from further analysis.

1. Demography

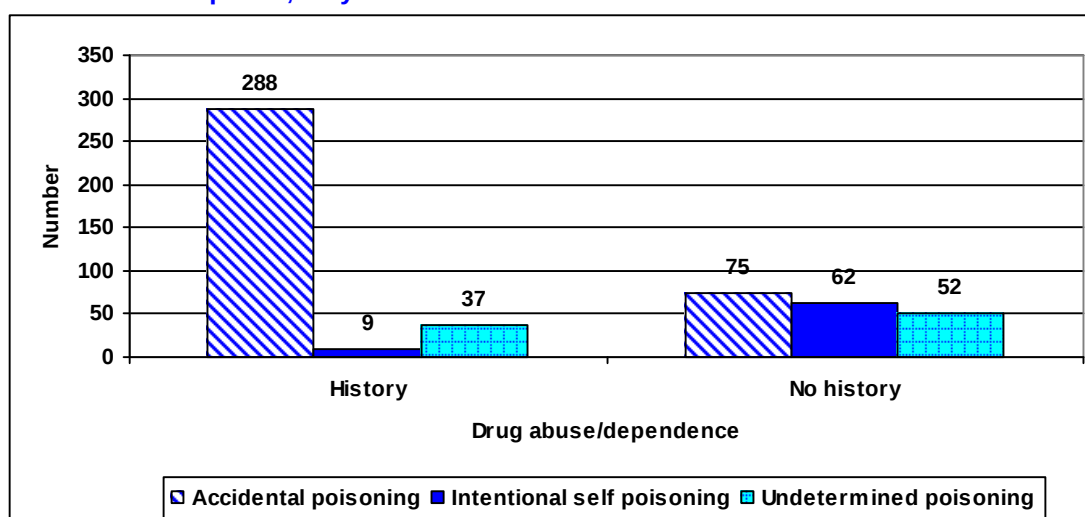
In comparison with non-drug abusers (NDAs: 55%), drug abusers/dependents (DAs: 86%) were more likely to be male ($PR = 1.5$, 95% $CI = 1.4 - 1.8$) and more likely to be less than 45 years of age, 87% vs. 46% ($PR = 1.9$,

95% $CI = 1.6 - 2.2$). The median age at death for DAs was 34.1 years (semi-interquartile range 6.2), while that for NDAs was 47.7 years (semi-interquartile range 13.1) (Mann-Whitney $U = 28191.5$, $p < 0.0005$).

2. Location of death

The majority of both DAs and NDAs died at a defined residential address, although this proportion was higher amongst the second group: DAs = 67%; NDAs = 69% ($PR = 1.0$, 95% $CI = 0.9 - 1.2$). Non drug addicts were slightly more likely to die in hospital (27%), than drug addicts (25%) ($PR = 0.9$, 95% $CI = 0.7 - 1.2$).

Figure 10: Principal underlying cause(s) of death by drug abuse/dependence history, np-SAD inquests, July–December 2006



3. Underlying cause(s) of death (Figure 10)

DAs were more likely than NDAs to die of accidental poisoning (74.8% vs. 37.1%) ($PR = 2.0$, 95% $CI = 1.7 - 2.4$) – Figure 10. NDAs, by contrast, were more likely than DAs to die of intentional self-poisoning (30.7% vs. 2.3%) ($PR = 13.1$, 95% $CI = 6.7 - 25.9$), and poisoning of undetermined intent (25.7% vs. 9.6%) ($PR = 2.7$, 95% $CI = 1.8 - 3.9$).

4. Manner of death

A similar pattern is exhibited with regard to manner of death. DAs were more likely than NDAs to die an accidental death (83.1% vs. 41.1%) ($PR = 2.0$, 95% $CI = 1.7 - 2.4$). Conversely, NDAs were more likely than DAs to die a suicidal death (32.2% vs. 3.1%) ($PR = 10.3$, 95% $CI = 5.7 - 18.7$), or a death where the manner was undetermined (24.8% vs. 11.2%) ($PR = 2.2$, 95% $CI = 1.5 - 3.2$).

XV Commentary

The decrease of 7.8% in the number of inquests notified during this surveillance period compared to the corresponding one in 2005 probably reflects a fall in compliance by a number of jurisdictions that normally report relatively large numbers of cases. The decrease in inquests reported is in line with the decrease in 2006 deaths noted in the Annual Report. However, a continued proactive approach to data collection and submission by the Programme has led to the compliance rate remaining very high.

The demographic profile of inquests reported remains consistent with previous reports. For the period of this report, the majority of subjects of these inquests were males (75%), under the age of 45 years (71%), and White (96%). Where the information was available, 66% of cases were drug abusers/dependents, as defined by the Programme.

One aim of the Programme is to provide early warning through surveillance of high-risk populations. For the period July to December 2006, Brighton & Hove recorded the highest semi-annual death rate (10.8/100,000), followed by Western Cumbria (10.2)..

Previous reports have highlighted areas with marked changes in semi-annual death rates, and noted that the validity of those changes can only be commented on through continued monitoring. These areas are revisited in this report as well as newly identified areas where death rates have fluctuated (Annex SR3).

Jurisdictions that stood out from others in this report as a result of an increase in the number of reported cases since the previous comparable reporting period (July-December 2005) (which led to increased semi-annual death rates since the previous reporting period) were: Dumbarton (from 0.0 to 3.1/100,000 population); Greater Manchester - West (0.5 to 3.0); Teesside (0.8 to 5.4); Bournemouth, Poole & Eastern Dorset (1.5 to 3.8); Western Cumbria (2.1 to 10.2); Newcastle-upon-Tyne (2.2 to 5.3); Peterborough (2.4 to 4.8); and Southampton & the New Forest (2.8 to 5.5).

Conversely, the jurisdictions which reported a marked decline in the number of cases

reported since the previous comparable 6-month period (which resulted in a decline in their semi-annual death rates) were: Powys (from 1.9 to 0.0/100,000 population); North Lincolnshire & Grimsby (2.0 to 0.0); Exeter & Greater Devon (5.0 to 3.1); Inner South London (4.3 to 2.0); Wolverhampton (4.2 to 1.6); North & East Cambridgeshire (5.3 to 1.5); and Guernsey (6.1 to 0.0).

Looking at the trends over a longer period, it can be seen that the mortality rates in North & East Cambridgeshire have varied from 0.8 to 5.3/100,000 population and now the semi-annual death rate is 1.5/100,000. In Peterborough rates had varied between 1.6 and 4.0 and now the rate is 0.8/100,000. In Blackburn, Hyndburn & Ribble Valley the rate varied from 0.5 to 4.5, but is now 2.8/100,000. Other areas demonstrating large variations over the last six surveillance periods include Dumbarton, Guernsey, Jersey and the Isle of Man (Annex SR3).

The semi-annual death rate in Brighton & Hove fell over the period January-June 2004 to July-December 2006 from 14.7 to 10.8/100,000 population. Similar declines were observed in East Lancashire (from 7.9 to 4.2); East Sussex (5.7 to 2.0); Greater Manchester - Central (4.5 to 1.4); East Riding & Hull (4.9 to 1.7); and Wolverhampton (4.2 to 1.6).

Areas showing increases in semi-annual death rates over the last six surveillance periods are: Western Cumbria (2.1 to 10.2/100,000 population); Teesside (1.9 to 5.4); the Isle of Wight (1.8 to 4.3); and North West Wales (2.0 to 3.9).

In general, it would seem that local prevention initiatives in these areas are yielding some positive outcomes. However, it should be noted that such changes might be an artefact of other factors that affect the way in which inquests are processed, e.g. prolonged investigations, increased workload, better identification of relevant cases, etc.

While the pattern of other drug-specific mortality remains stable, comparisons between July to December 2006 and the same period in 2005 revealed the following noticeable changes:

- A 7.8% decrease in the number of inquests into drug-related deaths
 - An increase in the proportion of cases living alone from 37% to 43%, and a decrease in the proportion living with others from 46% to 42%
 - An increase in the proportion of cases with a history of drug addiction from 63% to 66%
 - A decrease in the proportion of cases receiving prescribed drugs from 56% to 52%
 - About 35% increase in inquests where death was due to amphetamines
 - About 23% increase in inquests where death was due to other opiates/opioid analgesics
 - About 19% increase in the involvement of alcohol in inquests concerning drug-related deaths
 - About 7% increase in inquests where hypnotics/sedatives were implicated in death
 - About 59% increase in inquests in which cannabis was implicated in death
- These changes reveal a reversal of the trend noted in the surveillance report for the same period in 2005, i.e. of a return to an increasing trend in fatalities due to polydrug use involving combinations of opiates, cocaine and ecstasy-type drugs. These trends of increasing polydrug fatalities being investigated at inquest in the second half of 2006, are in line with the findings for deaths occurring in 2006.

Annex SR1: np-SAD cases reported in July-December 2006 by underlying cause(s) of death

ICD-10	No. of cases (n = 735)	%	Description
X41	54	7.3	<i>Accidental poisoning</i> Anti-epileptic, sedative-hypnotic, anti-parkinsonism and psychotropic drugs, not elsewhere classified
X42	376	51.2	Narcotics and psychodysleptics (hallucinogens), not elsewhere classified
X43	1	0.1	Other drugs acting on the autonomic nervous system
X44	5	0.7	Other and unspecified drugs, medicaments and biological substances
X45	8	1.1	Alcohol
X61	36	4.9	<i>Intentional self-poisoning</i> Anti-epileptic, sedative-hypnotic, anti-parkinsonism and psychotropic drugs, not elsewhere classified
X62	51	6.9	Narcotics and psychodysleptics (hallucinogens), not elsewhere classified
X63	2	0.3	Other drugs acting on the autonomic nervous system
X64	2	0.3	Other and unspecified drugs, medicaments and biological substances
Y10	1	0.1	<i>Poisoning of undetermined intent</i> Non-opioid analgesics
Y11	41	5.6	Anti-Parkinsonism drugs
Y12	75	10.2	Narcotics/psychodysleptics
Y14	2	0.3	Other and unspecified drugs
F10.0	1	0.1	<i>Mental & behavioural disorders due to psychoactive substance use</i> Acute intoxication - alcohol
F11.1	2	0.3	Harmful use - opioids
F11.2	1	0.1	Dependence – opioids
F12.1	1	0.1	Harmful use - cannabinoids
F14.1	1	0.1	Harmful use - cocaine
F14.2	1	0.1	Dependence - cocaine
F15.0	1	0.1	Intoxication – stimulants
F18.3	1	0.1	Withdrawal – volatile substances
F19.1	1	0.1	Harmful use – multiple other
F19.2	2	0.3	Dependence – multiple/other
Z72.2	7	1.0	Drug abuse, personal history
I20-I25	2	0.3	<i>Cardiovascular system – diseases, defects or conditions affecting</i> Ischaemic heart diseases
I26.9	1	0.1	Pulmonary embolism
I49.9	1	0.1	Cardiac arrhythmia
I51.4	1	0.1	Myocarditis, unspecified
I51.7	1	0.1	Cardiomegaly
I61.9	1	0.1	Inter-cerebral haemorrhage
I82.8	1	0.1	Cardio-respiratory failure/arrest
S06.8	1	0.1	<i>Injuries</i> Haemorrhagic skull (Intracranial injuries)
S09.9	6	0.8	Head injuries unspecified
S29.9	1	0.1	Injury (unspecified) of the thorax
T07	4	0.5	Multiple injuries, unspecified
V04.1	1	0.1	Pedestrian injured in collision with heavy transport
V86.0	3	0.4	Driver of all-terrain transport ... injured in traffic accident
V89.2	1	0.1	Person injured in unspecified. motor vehicle accident

ICD-10	No. of cases (n = 735)	%	Description
W76	3	0.4	<i>Hanging</i> Other accidental hanging and strangulation
X70	9	1.2	Intentional hanging
T17.9	1	0.1	<i>Asphyxia</i> Aspiration of gastric contents
W79	1	0.1	Inhalation & ingestion of food – obstructing airway
W73	1	0.1	<i>Drowning & submersion</i> Other specified drowning and submersion
W74	1	0.1	Unspecified
A40.0	1	0.1	<i>Other</i> Septicaemia due to streptococcus, group A
B44	1	0.1	Aspergillosis
G45.9	1	0.1	Transient cerebral ischaemic attack, unspecified
K70.3	1	0.1	Alcoholic cirrhosis of liver
R58	1	0.1	Haemorrhage, not elsewhere classified
T30.0	1	0.1	Burn of unspecified region, unspecified degree
T70.2	1	0.1	Barotrauma, not otherwise specified
W19	1	0.1	Unspecified fall
X09	2	0.3	Inhalation of smoke and fumes
X73	1	0.1	Intentional self-harm by rifle, shotgun & larger firearm discharge
R99	8	1.1	Unascertained

Where possible, causes of death have been grouped together in terms of the mechanisms of death. At present, although all causes of death on the death certificate (together with other information if available) are taken into consideration in classifying underlying cause of death, the principal cause of death is used here by np-SAD to allocate the ICD-10 code. In order to achieve a greater level of consistency, a hierarchical system was introduced for classifying the underlying cause of death using ICD-10 criteria for deaths involving multiple substances. Deaths that involve a combination of narcotics and other psychoactive drugs are coded as narcotic deaths. Where possible a code which specifies intentionality is used.

Annex SR2: np-SAD cases reported in July-December 2006 by coroner's jurisdiction (No. of cases, rate per 100,000 population (16 years old and over) and as a percentage of all inquests)

Coroner's Jurisdiction & county district	Number of np-SAD deaths Jul-Dec 2006	Semi-annual death rate per 100,000 population ⁽¹⁾	Annual % of all inquests held in 2006 ⁽²⁾
Queen's Household	0	0.00	0.00
ENGLAND			
AVON	9	1.09	1.29
BEDFORDSHIRE	9	1.96	4.81
BERKSHIRE	-	-	-
BUCKINGHAMSHIRE			
Buckinghamshire	6	1.57	3.92
Milton Keynes	5	2.92	5.05
CAMBRIDGESHIRE			
North & East Cambridgeshire	2	1.49	2.74
Peterborough	6	4.77	5.94
South & West Cambridgeshire	1	0.29	0.45
CHESHIRE	15	1.87	2.57
CORNWALL			
Cornwall	5	1.17	1.38
Isles of Scilly	0	0.00	0.00
CUMBRIA			
North Eastern Cumbria	-	-	-
Southern Cumbria & Furness	3	2.12	2.05
Western Cumbria	10	10.19	10.31
DERBYSHIRE			
Derby & South Derbyshire	6	1.28	2.78
North Derbyshire	9	2.78	3.14
DEVON			
Exeter & Greater Devon	15	3.10	4.09
Plymouth & South West Devon	-	-	-
Torbay & South Devon	3	1.54	1.97
DORSET			
Bournemouth, Poole & Eastern Dorset	15	3.78	9.49
Western Dorset	1	0.54	1.32
DURHAM			
Darlington & South Durham	1	0.45	0.79
North Durham	5	1.87	2.05
EAST SUSSEX			
Brighton & Hove	23	10.78	11.50
East Sussex	8	1.97	2.65
ESSEX			
Essex & Thurrock	6	0.57	1.24
Southend & South East Essex	5	1.90	5.62
GLOUCESTERSHIRE	7	1.50	2.14

Coroner's Jurisdiction & county district	Number of np-SAD deaths Jul-Dec 2006	Semi-annual death rate per 100,000 population ⁽¹⁾	Annual % of all inquests held in 2006 ⁽²⁾
GREATER MANCHESTER			
Manchester	5	1.40	0.89
North Manchester	6	1.26	1.80
South Manchester	13	2.28	2.33
West Manchester	19	3.01	4.08
HAMPSHIRE			
Central Hampshire	4	1.45	1.95
North East Hampshire	7	2.26	6.36
Portsmouth & South East Hampshire	8	1.80	2.51
Southampton & New Forest	18	5.53	9.33
HEREFORDSHIRE	0	0.00	0.00
HERTFORDSHIRE	12	1.44	3.40
HUMBERSIDE			
East Riding & Hull	8	1.71	3.07
ISLE OF WIGHT	5	4.31	6.85
KENT			
Central & South East Kent	6	2.30	3.43
Mid Kent & Medway	9	2.20	3.90
North East Kent	-	-	-
North West Kent	-	-	-
LANCASHIRE			
Blackburn, Hyndburn & Ribble Valley	6	2.79	2.78
Blackpool & the Fylde	10	5.54	6.94
East Lancashire	8	4.18	5.13
Preston & West Lancashire	6	1.06	1.45
LEICESTERSHIRE			
Leicester City & South Leicestershire	-	-	-
Rutland & North Leicestershire	5	1.40	2.49
LINCOLNSHIRE			
Boston & Spalding	-	-	-
North Lincolnshire & Grimsby	0	0.00	0.00
Spilsby & Louth	0	0.00	0.00
Stamford	0	0.00	0.00
West Lincolnshire	6	2.83	4.41
LONDON			
City of London	0	0.00	0.00
Eastern London	-	-	-
Inner North London	21	3.13	4.09
Inner South London	16	1.98	3.07
Inner West London	-	-	-
Northern London	11	1.04	2.35
Southern London	12	1.44	3.65
Western London	33	3.17	5.00
MERSEYSIDE			
Knowsley, St Helens & Sefton	8	1.64	3.21
Liverpool	15	4.10	3.14
Wirral	6	2.38	1.89
NORFOLK			
Great Yarmouth	-	-	-
King's Lynn	1	0.87	1.14
Norwich & Central Norfolk	4	0.82	1.68
NORTHAMPTONSHIRE	4	0.77	1.48

Coroner's Jurisdiction & county district	Number of np-SAD deaths Jul-Dec 2006	Semi-annual death rate per 100,000 population ⁽¹⁾	Annual % of all inquests held in 2006 ⁽²⁾
NORTHUMBERLAND			
North Northumberland	4	4.22	2.72
South Northumberland	-	-	-
NORTH YORKSHIRE			
North Yorkshire Eastern	0	0.00	0.00
North Yorkshire Western	3	1.09	2.50
York	-	-	-
NOTTINGHAMSHIRE	2	0.24	0.46
OXFORDSHIRE	1	0.20	0.25
SHROPSHIRE			
Mid & North Shropshire	5	3.17	5.43
South Shropshire	0	0.00	0.00
The Wrekin	2	1.57	2.25
SOMERSET			
Eastern Somerset	0	0.00	0.00
Western Somerset	3	1.46	2.14
SOUTH YORKSHIRE			
South Yorkshire East	9	2.07	2.59
South Yorkshire West	20	3.31	4.52
STAFFORDSHIRE			
South Staffordshire	3	0.62	0.84
Stoke-on-Trent & North Staffordshire	3	0.81	0.63
SUFFOLK	6	1.07	2.30
SURREY	11	1.27	3.04
TEESSIDE			
Hartlepool	-	-	-
Teesside	20	5.41	5.80
TYNE & WEAR			
Gateshead & South Tyneside	9	3.22	4.97
Newcastle-upon-Tyne	12	5.25	3.37
North Tyneside	-	-	-
Sunderland	-	-	-
WARWICKSHIRE	2	0.46	0.89
WEST MIDLANDS			
Birmingham	26	2.77	2.62
Black Country	7	1.04	2.05
Coventry	5	2.05	2.54
Wolverhampton	3	1.56	1.83
WEST SUSSEX	14	2.25	4.61
West YORKSHIRE			
West Yorkshire Eastern	25	2.95	4.78
West Yorkshire Western	14	1.66	3.11
WILTSHIRE	1	0.20	0.37
WORCESTERSHIRE	7	1.55	2.66

Coroner's Jurisdiction & county district	Number of np-SAD deaths Jul-Dec 2006	Semi-annual death rate per 100,000 population ⁽¹⁾	Annual % of all inquests held in 2006 ⁽²⁾
WALES			
Bridgend & Glamorgan Valleys	9	2.69	3.50
Cardiff & the Vale of Glamorgan	1	0.28	0.26
Carmarthenshire	1	0.69	1.12
Central North Wales	-	-	-
Ceredigion	1	1.52	2.94
Gwent	6	1.35	3.82
Neath & Port Talbot	4	3.64	5.63
North East Wales	-	-	-
North West Wales	6	3.94	4.55
Pembrokeshire	1	1.06	1.69
Powys	0	0.00	0.00
Swansea	10	5.40	6.71
NORTHERN IRELAND			
Northern Ireland	0	0.00	0.00
THE ISLANDS			
GUERNSEY	0	0.00	0.00
JERSEY	3	4.10	8.33
ISLE OF MAN	1	1.53	2.13
SCOTLAND			
ARGYLL & CLYDE			
Dumbarton	3	3.09	-

Please note that (0) refers to either no drug-related deaths or death rates of less than 0.01, whilst (–) indicates that no reports were submitted for the specific period from that jurisdiction. In subsequent reports these rates may increase as more inquests on deaths in 2006 are held and/or notified to the np-SAD. These rates should therefore be regarded as minimum rates.

(1) The rate per 100,000 population is based on published mid-year population estimates for local government administrative areas for the years in question. However, the areas covered by 23 of the coroners' jurisdictions in England and Wales, as well as the area covered by the Procurators Fiscal region in Dumbarton, are not co-terminous with these boundaries and cover parts of such areas (see Appendix 1). Where administrative areas are split between jurisdictions, the estimated population has been divided into two or three as applicable. However, this means that the population of some coroners' jurisdictions may be either over- or under-estimated. It is necessary to make such assumptions until more accurate figures can be obtained or calculated.

(2) Inquests held on all ages.

Annex SR3: Changes in semi-annual death rate per 100,000 population for np-SAD cases, 2004-2006 (16 years old and over)

Coroner's jurisdiction & county district	Semi-annual death rate per 100,000 population ^(1, 2)					
	Jan-June 2004	Jul-Dec 2004	Jan-June 2005	Jul-Dec 2005	Jan-June 2006	Jul-Dec 2006
Queen's Household	0.00	0.00	0.00	0.00	0.00	0.00
ENGLAND						
AVON	2.20	0.98	1.10	0.85	0.60	1.09
BEDFORDSHIRE	1.76	4.85	2.20	2.64	3.04	1.96
BERKSHIRE	0.78	0.47	-	0.00	0.15	-
BUCKINGHAMSHIRE						
Buckinghamshire	0.79	2.37	2.90	1.85	0.79	1.57
Milton Keynes	3.54	1.77	1.17	3.54	0.58	2.92
CAMBRIDGESHIRE						
North & East Cambridgeshire	1.52	1.52	0.76	5.31	1.49	1.49
Peterborough	3.99	3.19	1.60	2.39	0.79	4.77
South & West Cambridgeshire	2.08	2.37	1.19	0.00	0.29	0.29
CHESHIRE	1.63	1.75	1.50	2.38	2.62	1.87
CORNWALL						
Cornwall	0.24	0.24	0.47	0.47	0.00	1.17
Isles of Scilly	0.00	0.00	0.00	0.00	0.00	0.00
CUMBRIA						
North Eastern Cumbria	1.20	2.40	3.60	2.40	1.77	-
Southern Cumbria & Furness	1.41	2.11	0.70	2.11	2.82	2.12
Western Cumbria	2.07	2.07	1.04	2.07	4.08	10.19
DERBYSHIRE						
Derby & South Derbyshire	1.50	1.92	1.07	2.78	1.28	1.28
North Derbyshire	2.17	2.17	2.80	2.49	3.71	2.78
DEVON						
Exeter & Greater Devon	2.09	2.92	3.97	5.01	3.72	3.10
Plymouth & South West Devon	-	-	-	-	-	-
Torbay & South Devon	3.08	0.51	1.03	2.57	1.02	1.54
DORSET						
Bournemouth, Poole & Eastern Dorset	2.78	3.03	2.02	1.52	3.28	3.78
Western Dorset	2.18	2.18	-	0.54	3.24	0.54
DURHAM						
Darlington & South Durham	0.45	4.08	1.36	1.81	0.90	0.45
North Durham	0.38	1.14	0.38	0.76	1.50	1.87
EAST SUSSEX						
Brighton & Hove	14.72	10.45	9.02	12.35	7.97	10.78
East Sussex	5.68	3.70	2.72	0.74	2.46	1.97
ESSEX						
Essex & Thurrock	0.67	0.57	1.05	0.48	0.38	0.57
Southend & South East Essex	1.91	1.52	0.76	3.05	2.66	1.90
GLOUCESTERSHIRE	1.51	0.22	0.21	1.07	1.50	1.50

Coroner's Jurisdiction & county district	Jan-June 2004	Jul-Dec 2004	Jan-June 2005	Jul-Dec 2005	Jan-June 2006	Jul-Dec 2006
GREATER MANCHESTER						
Manchester	4.54	1.70	-	0.28	3.08	1.40
North Manchester	2.53	1.89	1.26	1.47	0.84	1.26
South Manchester	2.47	1.58	3.35	2.64	1.40	2.28
West Manchester	1.11	0.95	0.95	0.48	0.16	3.01
HAMPSHIRE						
Central Hampshire	1.10	3.31	1.47	2.58	1.09	1.45
North East Hampshire	2.93	2.93	1.95	1.95	0.97	2.26
Portsmouth & South East Hampshire	0.45	4.52	1.58	2.94	3.38	1.80
Southampton & New Forest	4.02	3.71	5.56	2.78	3.69	5.53
HEREFORDSHIRE	-	0.69	2.05	1.38	0.68	0.00
HERTFORDSHIRE	2.05	3.02	2.53	1.57	1.20	1.44
HUMBERSIDE						
East Riding & Hull	4.89	3.01	6.02	2.80	2.77	1.71
ISLE OF WIGHT	1.75	0.00	0.00	2.63	2.59	4.31
KENT						
Central & South East Kent	-	1.16	1.55	0.78	3.06	2.30
Mid Kent & Medway	3.84	5.76	2.40	2.40	0.49	2.20
North East Kent	-	-	-	-	-	-
North West Kent	-	-	-	-	-	-
LANCASHIRE						
Blackburn, Hyndburn & Ribble Valley	0.47	2.79	0.00	4.19	2.79	2.79
Blackpool & the Fylde	5.01	5.57	7.24	5.01	9.42	5.54
East Lancashire	7.86	2.62	4.71	5.24	5.75	4.18
Preston & West Lancashire	1.60	3.91	0.36	0.36	1.06	1.06
LEICESTERSHIRE						
Leicester City & South Leicestershire	-	-	-	-	-	-
Rutland & North Leicestershire	0.28	0.28	1.14	0.28	0.28	1.40
LINCOLNSHIRE						
Boston & Spalding	6.17	2.65	1.75	1.76	-	-
North Lincolnshire & Grimsby	-	0.80	3.17	1.99	0.79	0.00
Spilsby & Louth	0.00	-	0.79	0.00	0.79	0.00
Stamford	0.00	0.00	0.00	0.00	0.00	0.00
West Lincolnshire	2.87	3.83	3.35	3.35	1.42	2.83
LONDON						
City of London	0.00	0.00	-	0.00	0.00	0.00
Eastern London	0.35	0.69	0.58	1.27	1.15	-
Inner North London	3.05	2.90	5.03	3.81	2.54	3.13
Inner South London	1.25	0.88	2.13	4.25	5.45	1.98
Inner West London	0.94	0.54	0.94	0.67	0.13	-
Northern London	1.90	1.43	2.19	2.48	2.08	1.04
Southern London	0.97	0.61	0.97	1.45	0.48	1.44
Western London	3.97	0.87	4.99	4.70	2.97	3.17
MERSEYSIDE						
Knowsley, St Helens & Sefton	1.23	2.26	2.47	2.26	2.05	1.64
Liverpool	5.53	7.47	7.74	4.70	3.82	4.10
Wirral	3.58	1.19	0.40	3.18	2.38	2.38

Coroner's Jurisdiction & county district	Jan-June 2004	Jul-Dec 2004	Jan-June 2005	Jul-Dec 2005	Jan-June 2006	Jul-Dec 2006
NORFOLK						
Great Yarmouth	-	-	-	-	-	-
King's Lynn	2.62	-	3.46	0.87	2.60	0.87
Norwich & Central Norfolk	-	4.14	4.55	2.48	2.04	0.82
NORTHAMPTONSHIRE	2.34	1.36	1.17	1.56	2.12	0.77
NORTHUMBERLAND						
North Northumberland	6.35	-	7.38	4.23	-	4.22
South Northumberland	-	2.49	0.62	-	-	-
NORTH YORKSHIRE						
North Yorkshire Eastern	1.00	0.50	1.50	1.00	1.00	0.00
North Yorkshire Western	0.37	2.58	0.74	1.47	0.73	1.09
York	7.15	5.85	4.49	2.60	1.28	-
NOTTINGHAMSHIRE	0.71	1.19	0.36	0.83	0.47	0.24
OXFORDSHIRE	0.80	0.40	1.40	1.40	1.18	0.20
SHROPSHIRE						
Mid & North Shropshire	-	1.92	2.54	2.54	1.27	3.17
South Shropshire	0.00	-	1.28	0.00	0.00	0.00
The Wrekin	0.79	1.58	0.79	1.58	2.36	1.57
SOMERSET						
Eastern Somerset	1.90	0.47	0.95	1.42	0.47	0.00
Western Somerset	2.94	3.43	3.43	1.47	2.43	1.46
SOUTH YORKSHIRE						
South Yorkshire East	0.69	1.62	1.39	1.16	2.76	2.07
South Yorkshire West	2.51	3.01	2.84	3.18	3.97	3.31
STAFFORDSHIRE						
South Staffordshire	2.59	3.12	1.46	0.83	1.24	0.62
Stoke-on-Trent & North Staffordshire	2.70	3.78	2.16	2.16	2.15	0.81
SUFFOLK	1.09	1.81	3.21	2.50	0.54	1.07
SURREY	0.46	0.23	0.35	1.16	0.81	1.27
TEESSIDE						
Hartlepool	-	-	-	2.81	2.81	-
Teesside	1.90	3.25	2.71	0.81	3.79	5.41
TYNE & WEAR						
Gateshead & South Tyneside	-	3.96	2.52	1.80	1.07	3.22
Newcastle-upon-Tyne	7.68	-	6.33	2.26	0.44	5.25
North Tyneside	-	1.93	0.64	-	-	-
Sunderland	-	-	-	0.44	0.43	-
WARWICKSHIRE	0.70	-	0.47	-	1.61	0.46
WEST MIDLANDS						
Birmingham	2.37	1.19	1.94	1.29	0.11	2.77
Black Country	1.05	-	0.59	0.90	0.59	1.04
Coventry	2.88	1.24	0.41	0.41	1.23	2.05
Wolverhampton	4.18	2.09	1.04	4.16	1.56	1.56
WEST SUSSEX	-	2.43	1.46	2.43	0.64	2.25
WEST YORKSHIRE						
West Yorkshire Eastern	3.33	4.64	2.98	3.10	3.19	2.95
West Yorkshire Western	1.56	2.39	2.27	2.39	0.95	1.66
WILTSHIRE	1.00	1.20	1.20	1.00	0.59	0.20
WORCESTERSHIRE	2.68	1.56	3.35	1.79	1.11	1.55

Coroner's Jurisdiction & county district	Jan-June 2004	Jul-Dec 2004	Jan-June 2005	Jul-Dec 2005	Jan-June 2006	Jul-Dec 2006
WALES						
Bridgend & Glamorgan Valleys	0.90	2.39	1.50	2.69	1.79	2.69
Cardiff & the Vale of Glamorgan	1.70	0.28	-	-	0.84	0.28
Carmarthenshire	0.69	4.16	2.08	0.69	3.45	0.69
Central North Wales	0.00	-	-	-	-	-
Ceredigion	0.00	0.00	-	3.07	4.57	1.52
Gwent	1.36	0.90	1.36	0.90	0.23	1.35
Neath & Port Talbot	5.45	3.63	5.45	3.63	0.91	3.64
North East Wales	0.00	-	-	-	-	-
North West Wales	1.98	2.64	0.66	3.30	3.29	3.94
Pembrokeshire	2.12	2.12	-	1.06	2.11	1.06
Powys	0.94	-	-	1.88	0.93	0.00
Swansea	-	-	-	-	-	5.40
NORTHERN IRELAND						
Northern Ireland	-	-	-	-		0.00
THE ISLANDS						
GUERNSEY	2.04	6.13	0.00	6.13	0.00	0.00
JERSEY	4.15	9.69	0.00	4.17	1.39	4.10
ISLE OF MAN	1.62	1.62	11.32	0.00	0.00	1.53
SCOTLAND						
ARGYLL & CLYDE						
Dumbarton	1.05	8.43	9.49	0.00	4.12	3.09

Please note that (0) refers to either no drug-related deaths or death rates of less than 0.01, whilst (-) indicates that no reports were submitted for the specific period from that jurisdiction. In subsequent reports these rates may increase as more inquests on deaths in earlier years are held and/or notified to the np-SAD. These rates should be regarded as minimum rates.

- (1) The rate per 100,000 population is based on published mid-year population estimates for local government administrative areas for the years in question. However, the areas covered by 23 of the coroners' jurisdictions in England and Wales, as well as the area covered by the Procurators Fiscal region in Dumbarton, are not co-terminous with these boundaries and cover parts of such areas (see Appendix 1). Where administrative areas are split between jurisdictions, the estimated population has been divided into two or three as applicable. However, this means that the population of some coroners' jurisdictions may be either over- or under-estimated. It is necessary to make such assumptions until more accurate figures can be obtained or calculated.
- (2) These rates are based on the number of inquests reported to the np-SAD during the relevant 6-month period. They do not, therefore, reflect the workload of the coroners in terms of the number of drug-related death inquests held in these periods. Furthermore, details of additional inquests held in these periods may be subsequently notified to the np-SAD.

Annex SR4: Profile of cases meeting criteria for monitoring the UK Drug Strategy, July - December 2006

Introduction

This annex has been compiled at the request of the Department of Health to enable them to monitor progress against the UK Drug Strategy target for reducing drug-related deaths. Whilst the official target is being measured by reference to figures compiled by the Office for National Statistics (ONS), information generated by cases notified by coroners to the np-SAD can complement their data.

Definition of cases

The definition of a drug-related death adopted for the UK Drug Strategy is somewhat narrower than that for an np-SAD case (see Section II above). It is possible to derive information on this narrower basis by operationalising the np-SAD case definition using the method described below. The np-SAD approach is to exclude two specific categories from its case definition; those remaining are regarded as meeting the criteria for the UK government definition. The two categories excluded from the np-SAD cases are; (a) deaths of non-drug abusers where no Controlled Drugs were found at post mortem or where a specific compound analgesics was found at post mortem; and (b) deaths of drug abusers where no Controlled Drugs were found at post mortem or where a specific compound analgesics was found at post mortem and the mechanism of death was hanging, drowning, accident, etc.

For the purposes of this annex, the np-SAD has closely followed the same approach as the Office for National Statistics and the General Register Office for Scotland in

respect of the compound analgesics not treated as Controlled Drugs, the exception being that of codeine. This cannot be excluded from our consideration because it is a by-product of the degeneration of heroin in the body and thus may represent the consumption of heroin rather than codeine. This will not have affected many cases.

Profile of cases

The following analysis looks at inquests held in the second half of 2006 for deaths in England and Wales which meet the above selection criteria (595/735 or 81.0% of all np-SAD cases reported on here). Demographic details and a summary of principal drugs implicated in death are presented below.

1. Demography

The majority of cases were male (80%). The median age at death was 35.5 years (semi-inter quartile range = 8.2), with about three-quarters (76%) being under the age of 45 years. Where ethnicity was known, the vast majority (96.6%) were White. Where addict status was known, the majority (75.7%) had a history of drug-dependence or abuse. Just over half (52%) of cases were unemployed and 47% of cases were living alone or in no fixed abode at the time of their death (Table SR4.1).

3. Location of death

The majority of cases (67%) died at a defined residential address (e.g. the deceased's home address or other private residential address), just under one-quarter (25%) died in hospital and the remainder (8%) died elsewhere (e.g. in a public place).

Table SR4.1: Demographic variables for inquests reported to np-SAD meeting the criteria for monitoring the UK Drug Strategy, England & Wales, July – December 2006

Variable	Category	Number (%)
Total		595 (100.0)
Gender	Male	473 (74.5)
	Female	122 (20.5)
Employment status	Unemployed	307 (51.6)
	Employed	181 (30.4)
	Childcare/house person	6 (1.0)
	Student	15 (2.5)
	Retired/sickness/invalidity	48 (8.1)
	Other	2 (0.3)
	Not known	36 (7.9)
Living arrangements	Alone	252 (42.4)
	With others	243 (40.8)
	No fixed abode	28 (4.7)
	Other	28 (4.7)
	Not known	44 (9.6)

3. Substances implicated in death

Psychoactive substances were implicated in 549/595 deaths (92.3%). The principal substances implicated in drug-related deaths were: heroin/morphine (55%) and alcohol in combination with other drugs (35%). Other classes of drugs making a sizeable contribution to deaths were: other

opiates/opioid analgesics (19%); methadone (19%); hypnotics/sedatives (16%); cocaine (15%); and anti-depressants (11%). Heroin/morphine as the sole implicated drug accounted for 23% of deaths. The breakdown of psychoactive substances implicated in death is presented in Table SR4.2.

Table SR4.2: Psychoactive substances implicated in death for inquests reported to np-SAD meeting the criteria for monitoring the UK Drug Strategy, England & Wales, July – December 2006

Drug category	Number of cases where no other substance was implicated	Number of cases where drug was implicated
	No. (%)	No. (%)
Total of cases with psychoactive drug implicated	549	549
Alcohol-in-combination ⁽¹⁾	-	119 (34.8)
Amphetamines	8 (1.4)	27 (4.9)
Anti-depressants	5 (0.9)	58 (10.6)
Anti-epileptics	1 (0.2)	7 (1.3)
Anti-psychotics	1 (0.2)	16 (2.9)
Cannabis	2 (0.4)	9 (1.6)
Cocaine	21 (3.8)	81 (14.8)
Ecstasy-type drugs	12 (2.1)	26 (5.7)
GHB	1 (0.2)	4 (0.7)
Heroin/morphine	125 (22.8)	300 (54.6)
Hypnotic/sedatives	5 (0.9)	88 (16.0)
Methadone	36 (6.6)	106 (19.3)
Other opiates/opioid analgesics	17 (3.1)	106 (19.3)

(1) Alcohol on its own does not meet the criteria for an np-SAD case.

4. Age and drug implicated in death

In cases aged 15-44 years, heroin/morphine (60.8%) was the most frequently mentioned drug contributing to fatality. In those aged

45 years and over, heroin/morphine (35.4%), alcohol-in-combination (31.5%), and other opiates/opioid analgesics (30.8%) were the most frequently mentioned as being implicated (Table SR4.3).

Table SR\$.3: Age and drug implicated in deaths for inquests reported to np-SAD meeting the criteria for monitoring the UK Drug Strategy, England & Wales, July – December 2006

Age-group (years)	Number (%)	Drug category (alone or in combination) most frequently implicated in each age group
All ages	549 (100.0)	Heroin/morphine (54.6%)
14 & under	1 (0.2)	Methadone (1)
15–24	73 (13.3)	Heroin/morphine (50.7%)
25–34	191 (34.8)	Heroin/morphine (64.4%)
35–44	154 (28.1)	Heroin/morphine (60.4%)
45–54	79 (14.4)	Heroin/morphine (41.8%)
55–64	35 (6.4)	Anti-depressants (34.3%)
65 & over	16 (2.9)	Other opiates/opioid analgesics (56.3%)

5. Underlying cause(s) of death

The proportions of ICD-10 categories of underlying cause of death were as follows:

- Accidental poisoning (X40-X47): 67.7%
- Intentional self-poisoning (X60-X67): 7.9%
- Poisonings of undetermined intent (Y10-Y14): 12.6%
- Other (e.g. natural causes, drowning, hanging, unascertained): 11.8%

6. Manner of death

The manner of death in these cases was considered to be as follows:

- Natural: 1.5%
- Accidental: 74.3%
- Suicidal: 9.7%
- Homicidal: 0.0%
- Undetermined: 13.9%
- Unclassified/not specified: 0.5%

Appendices

Appendix 1: The *national programme on Substance Abuse Deaths* (np-SAD)

Aims and objectives

The Programme's principal aim is to reduce and prevent drug-related deaths in the UK due to the misuse of drugs, both licit and illicit, by collecting, analysing and disseminating information on the extent and nature of death. The Programme offers a comprehensive prevention package to Drug (and Alcohol) Action Teams (D(A)ATs), Primary Care Trusts (PCTs) and Strategic Health Authorities (SHAs) with a mission to tackle the problem of drug-related deaths.

The Programme's objectives are to:

- Collect and collate drug-related mortality data
- Develop and maintain a computerised surveillance system
- Identify substances implicated in drug-related deaths – including new drugs and new combinations
- Monitor and examine patterns and trends, e.g. geographic, demographic, substances implicated in death, method of death
- Act as an early warning system for new trends in mortality and drug misuse
- Use data as an indicator to estimate the prevalence of substance-related problems and assess the hazards associated with substance abuse
- Collaborate with relevant agencies in research on substance-related mortality locally, nationally and internationally
- Inform and facilitate discussion on the prevention of drug-related deaths, whether accidental or intentional
- Provide data for local and national drug abuse policy formulation and programme planning
- Disseminate information on drug-related mortality to the scientific community, clinicians, policy makers and other interested parties

np-SAD database

The Coroners Drug-Related Deaths Database was established in conjunction with the Home Office, who lead on the UK Government's drug strategy, following the closure of the national UK Addicts Index.

The purpose of the database is to provide information for the management of a national surveillance system to monitor drug-related deaths reported by coroners and procurators fiscal. Data are sent to the np-SAD on a standard reporting form (see below).

Surveillance data management

Data collection

All coroners in the UK (see Appendix 1) are issued with copies of the standard data collection form (see Appendix 2). They are invited to complete the forms on all deaths that meet the criteria described in this report and return them to the np-SAD at the ICDP office at St. George's, University of London for coding and entry onto the database.

Data submission is mostly directly on paper by coroners or their staff. There is also manual completion of the np-SAD data collection form or print-out of completed computer-generated forms using bespoke software. Forms are submitted when inquests are complete – either singly or in batches. Some data are received electronically. Manual extraction of data by team members is undertaken at some coroners' courts – mostly in London.

Data entry and coding

A great deal of consideration was given to the area of data coding to ensure that comparison with other databases was possible and that the final analyses would be useful to readers. For example, all cases were coded for area of residence of the deceased. Causes of death (immediate and underlying) are re-coded according to ICD-10. All drugs (i.e. those implicated in the death) are coded separately according to therapeutic drug category (i.e. hypnotics/sedatives, anti-depressants, opiates, etc).

Statistical analysis

Due to the nature of the information collected by the programme, i.e. drug-related deaths as reported by the coroners,

this is an observational study. Hence, statistical methods employed are based on proportions and ratios. Where the data include proportions of incidence for particular groups of interest, the ratio of the proportions forms a measure of the relative risk in one group compared with that of another. These scales of measurement are generally known as point estimates. Although point estimates can be calculated they do not represent the 'true' values. Each point estimate is subject to random variation. Confidence intervals (CI) provide an indication of the range in the true values for the population as a whole, which would be expected in future investigations. The methods used for quantitative data relied mainly on complex assumptions of distributional form. It may be the case that the assumptions are not always satisfied. In such cases, methods known as distribution-free methods can be applied, also known as non-parametric tests (e.g. Mann-Whitney). The data were analysed using SPSS™ for Windows version 14.

Data storage

The anonymised data-set for coroners is held on a SPSS database for analysis. All data held, whether electronic or paper, is stored securely and treated as confidential. Access is restricted to Programme staff; only aggregated and anonymised data are released to third parties.

What is an np-SAD case?

An np-SAD case is defined as a relevant death where any of the following criteria are met at a completed inquest, fatal accident inquiry or similar investigation:

- One or more psychoactive substances* directly** implicated in death;
- History of dependence or abuse of psychoactive drugs;
- Presence of Controlled Drugs*** at post mortem; or
- Cases of deaths directly due to drugs but with no inquest.

Deaths where solvents and other volatile substances are implicated alone are NOT included. Information on this is collected by the Department of Community Health Sciences at St. George's, University of London; further information can be seen at <http://www.vsareport.org>. Alcohol is

included only when implicated in combination with other qualifying drugs.

* 'Psychoactive' substances are those having a direct effect on perception, mood, cognition, behaviour or motor function. Typically these include opiates and opioid analgesics, hypnotics, sedatives, anti-depressants, anti-epileptics, anti-psychotics, hallucinogens and stimulants such as amphetamines and cocaine.

** 'Directly implicated' means that drugs were considered by the coroner or other person investigating the death to have been instrumental in the coming about of the deceased's death (e.g. through poisoning or intoxication), or causing their powers of reasoning and/or perception to be so affected as to induce them to take risks which they would not have done had they been sober (e.g. thinking they could fly).

*** 'Controlled Drugs' are those drugs specifically classified by the Misuse of Drugs Act 1971 as amended by subsequent legislation. Controlled drugs include opioids, cocaine, amphetamines, cannabis, GHB, hallucinogens and most benzodiazepines.

Who is a drug abuser/dependent?

A drug abuser/dependent case is defined as one with a history of substance abuse where one or more of the following criteria are met:

- Reported as a known illicit drug user by the coroner, based on evidence obtained at inquest;
- Prescribed substitute medication for drug dependence;
- Presence of an illicit drug at post mortem, where not prescribed; or
- Presence of any additional information on the coroner's report suggestive of a history of drug abuse, and where such a history fulfils ICD-10 criteria: (F11-F16 and F19, using the 4-code subdivisions of .0 (acute intoxication), .1 (harmful use), and .2 (dependence syndrome).

Other activities and resources

The np-SAD team also conduct in-depth psychological autopsies on individual cases and carry out confidential inquiry exercises on request. The team also provides

analysis of data for specific Drug and Alcohol Action Teams (DAATs), Primary Care Trusts (PCTs) and (Special Health Authorities) SHAs on request.

As a consequence of the work to date, information on the trends and patterns of death among UK drug misusers, including the impact of illicit and prescribed drugs, has been made available.

In addition to the above activities, the Programme

- Is the official custodian of the national UK Addicts Index Access database and paper files covering the period 1968-1997
- Holds a copy of the official Dead Addicts datafile
- Is located in an academic centre with input from relevant disciplines
- Brings to a broad range of expertise from different professional backgrounds – psychiatry, psychology,

social science, pharmacology, epidemiology, addictive behavioural science, database, project management, etc.

- Has national and international experience, collaborating in research and training with bodies such as the World Health Organisation, European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), and the European Collaborating Centres for Addiction Studies.

National Steering Group

The np-SAD has a National Steering Group to provide additional expertise to the Programme through involvement and participation. Its principal role is in giving advice on the full range of its activities, including the national surveillance of coroners and production of 6-monthly and annual reports.

Appendix 2: Coroner's jurisdictions/ police force areas reporting drug-related deaths, United Kingdom & Islands

Administrative county/area	Jurisdiction	Description
	(The) Queen's Household	"The Coroner of the Queen's Household has exclusive jurisdiction in respect of inquests and, semble, inquiries which do not lead to inquests, on persons whose bodies are lying within the limits of any of the Queen's palaces or within the limits of any other house where Her Majesty is then demurrant and abiding in her own royal person, notwithstanding the subsequent removal of Her Majesty from such palace or house. The limits of the palace or house are deemed to extend to any courts, gardens or other places within the curtilage of the palace or house but not further. Where a body is lying dead beyond these limits, the coroner of the Queen's Household has no jurisdiction."
ENGLAND		
Avon	Avon	The city of Bristol and the districts of Bath & North East Somerset, North West Somerset & South Gloucestershire
Bedfordshire	Bedfordshire & Luton	The whole county of Bedfordshire and the county of Luton
Berkshire	Berkshire	The whole county of Berkshire
Buckinghamshire	Buckinghamshire	The whole county of Buckinghamshire (excl. Milton Keynes)
	Milton Keynes	The whole county of Milton Keynes
Cambridgeshire	North & East Cambridgeshire	The districts of Fenland & East Cambridgeshire
	Peterborough	The district of Peterborough
	South & West Cambridgeshire	The City of Cambridge, the districts of Huntingdon and South Cambridgeshire
Cheshire	Cheshire	The whole county of Cheshire
Cornwall	Cornwall	The whole county of Cornwall (exc. Isles of Scilly)
	Isles of Scilly	The Isles of Scilly
Cumbria	North Eastern Cumbria	The district of Carlisle. The district of Eden, except the Parish of Threlkeld; In the district of Allerdale, the parishes of Aikton, Allhallows, Allonby, Aspatia, Blennerhasset & Torpenhow, Bolton, Bowness, Bromfield, Caldbeck, Dundraw, Hayton & Mealo, Holme Abbey, Holme East Waver, Holme Low, Holme St Cuthbert, Ireby, Kirkhampton, Kirkbride, Sebergham, Silloth, Thursby, Waverton, Westnewton, Westward, Wigton & Woodside. Skinburness Marsh, common to the Parishes of Holme Abbey, Holme Low & Holme St Cuthbert Civil
	Southern Cumbria & Furness	The districts of South Lakeland and Barrow-in-Furness. Lands common to the parishes of Lowick & Subberthwaite Civil, Aldingham & Urswick Civil (known as Birkrigg Common).
	Western Cumbria	The district of Copeland. The district of Allerdale, except the parts in the Coroner's Jurisdiction of North Eastern Cumbria. In the district of Eden, the parish of Threlkeld.

Administrative county/area	Jurisdiction	Description
Derbyshire	Derby & South Derbyshire	The county of Derby and the districts of Erewash & South Derbyshire. The district of Amber Valley (except the parts in the Coroners' Jurisdictions of High Peak and Scarsdale). In the district of West Derbyshire, the parishes of Alkmonton, Ashbourne, Atlow, Biggin, Boylestone, Bradbourne, Bradley, Brailsford, Clifton & Compton, Cubley, Doveridge, Edlaston & Wyaston, Fenny Bentley, Hognaston, Hollington, Hulland, Hulland Ward, Hungry Bentley, Kirk Ireton, Kniveton, Lea Hall, Longford, Mapleton, Marston Montgomery, Mercaston, Norbury & Roston, Offcote & Underwood, Osmaston, Rodsley, Shirley, Snelston, Somersal Herbert, Sudbury, Thorpe, Tissington, Yeaveley and Yeldersley
	North Derbyshire	The District of Bolsover and North East Derbyshire. The Boroughs of Chesterfield and High Peak. In the Borough of Amber Valley the parishes of Denthick, Lea and Holloway, South Wingfield and Alfreton. The District of Derbyshire Dales except the parishes in the Derby and South Derbyshire Coroner" District.
Devon	Exeter & Greater Devon	The districts of East Devon, Exeter, Mid Devon, North Devon, Torridge, West Devon. That part of the district of Teignbridge comprising the parishes of Alphington, Ashton, Bovey Tracey, Bridford, Christow, Chudleigh, Doddiscombsleigh, Dunchideock, Dunsford, Exminster, Hennock, Holcombe Burnell, Ide, Kenn, Lustleigh, Manaton, Moretonhampstead, North Bovey, Shillingford St George, Tedburn St Mary, Trusham & Whitestone.
	Plymouth & South West Devon	The district of Plymouth. The district of South Hams except the parishes in the Torbay and South Devon coroner's district.
	Torbay & South Devon	The district of Torbay. The district of Teignbridge except the parishes in the Coroner's Jurisdiction of Exeter and Greater Devon. That part of the district of South Hams comprising the parishes of Ashprington, Berry Pomeroy, Blackawton, Cornworthy, Dartington, Dartmouth, Dean Prior, Dittisham, Halwell, Harberton, Holne, Kingswear, Littlehampton, Marldon, Rattery, Slapton, Staverton, Stoke Fleming, Stoke Gabriel, Strete, Totnes and West Buckfastleigh
Dorset	Bournemouth, Poole & Eastern Dorset	The counties of Bournemouth & Poole, Christchurch, Purbeck and Wimbourne
	Western Dorset	The districts of West Dorset, North Dorset and Weymouth & Portland
Durham	Darlington & South Durham	The county of Darlington and the districts of Sedgefield and Teesdale {Wear Valley also included]
	North Durham	The districts of Chester-Le-Street, Derwentside, Durham and Easington
East Sussex	Brighton & Hove	The county of Brighton & Hove
	East Sussex	The whole county of East Sussex
Essex	Essex & Thurrock (Essex No 1)	The districts of Basildon, Braintree, Brentwood, Chelmsford, Colchester, Epping Forest, Harlow, Maldon, Tendring, Thurrock and Uttlesford
	Southend & South East Essex (Essex No 2)	The districts of Southend, Rochford and Castle Point

Administrative county/area	Jurisdiction	Description
Gloucestershire	Gloucestershire	The county of Gloucestershire
Greater Manchester	Manchester	The district of Manchester
	North Manchester	The districts of Bury, Rochdale & Oldham
	South Manchester	The districts of Stockport, Tameside and Trafford
	West Manchester	The districts of Wigan, Bolton and Salford
Hampshire	Central Hampshire	The districts of Winchester, Test Valley and Eastleigh
	North East Hampshire	The districts of Basingstoke, Hart & Rushmoor and that part of the district of East Hampshire not contained in the Portsmouth & South East Hampshire coroner's district
	Portsmouth & South East Hants	The county of Portsmouth and the districts of Fareham, Gosport and Havant and, in the district of East Hampshire, the parishes of Buriton, Clanfield, Colemore and Priors Dean, East Meon, Froxfield, Hawkley, Horndean, Langrish, Liss, Petersfield, Rowlands Castle and Steep
	Southampton & New Forest	The county of Southampton and the district of New Forest
Herefordshire	Herefordshire	The whole county of Herefordshire
Hertfordshire	Hertfordshire	The whole county of Hertfordshire
Humberside	East Riding & Hull	The counties of the East Riding of Yorkshire and the city of Kingston-upon-Hull
Isle of Wight	Isle of Wight	The whole county of the Isle of Wight
Kent	Central & South East Kent	The district of Shepway. The borough of Ashford. The district of Dover except those parishes with the North East Kent coroner's district. In the district of Swale, the parishes of Boughton under Bleab, Doddington, Dunkirk, Eastling, Faversham, Graveney & Goodnestone, Hernhill, Luddenham, Lynsted, Newnham, Norton & Buckland, Oare, Ospringe, Selling, Sheldwich Badlesmere & Leaveland, Stalisfield, Stone, Teynham, Throwley
	Mid Kent & Medway	The City of Rochester upon Medway, the districts of Gillingham and Maidstone. The district of Swale, with the exception of Faversham and the parishes in the Coroner's Jurisdiction of East Kent. In the district of Tonbridge and Malling, the parishes of Addington, Aylesford, Birling, Burham, Ditton, East Malling & Larkfield, King's Hill, Leybourne, Mereworth, Offham, Ryarsh, Snodland, Trottiscliffe, Watlington & East Peckham, Wouldham.
	North East Kent	The district of Thanet. The City of Canterbury. In the district of Dover, the parishes of Ash, Aylesham, Deal, Eastry, Eythorpe, Goodnestone, Great Mongeham, Nonington, Northbourne, Preston, Ringwould & Kingsdown, Ripple, Sandwich, Sholden, Staple, Stourmouth, Sutton by Dover, Tilmanstone, Walmer, Wingham, Woodnesborough, Worth.
	North West Kent	The districts of Dartford, Gravesham, Sevenoaks and Tunbridge Wells. The district of Tonbridge and Malling, except the parishes in the Mid-Kent and Medway Coroner's district.
Lancashire	Blackburn, Hyndburn & Ribble Valley	The districts of Blackburn, Hyndburn & Ribble Valley
	Blackpool & the Fylde	The districts of Blackpool and Fylde
	East Lancashire	The districts of Burnley, Pendle and Rossendale
	Preston & West Lancashire	The districts of Lancaster, Wyre, Chorley, Preston, South Ribble and West Lancashire

Administrative county/area	Jurisdiction	Description
Leicestershire	Leicester City & South Leicestershire	The county of Leicester and the districts of Blaby, Harborough, Oadby, Wigston
	Rutland & North Leicestershire	The county of Rutland and the districts of Charnwood, Hinckley & Bosworth, Melton and North West Leicestershire
Lincolnshire	Boston & Spalding	The districts of Boston and South Holland
	North Lincolnshire & Grimsby	The counties of North Lincolnshire and North East Lincolnshire
	Spilsby & Louth	The district of East Lindsey, except the parishes in the West Lincolnshire coroners' district. In the district of West Lindsey, the parishes of Bigby, Brocklesbury, Cabourne, Caistor, Claxby, Grasby, Great Limber, Holton Le Moor, Keelby, Kirmond le Mire, Legsby Linwood, Market Rasen, Middle Rasen, Nettleton, Normanby le Wold, North Kelsey, North Willingham, Osgodby, Owersby, Riby, Rothwell, Searby cum Owmbly, Sixhills, Somerby, South Kelsey, Stainton le Vale, Swallow, Swinhope, Tealby, Thoresway, Thorganby and Walesby.
	Stamford	In the district of South Kesteven, the parishes of Aslackby & Loughton, Barholm & Stowe, Baston, Billingborough, Bourne, Braceborough & Wilsthorpe, Careby Aunby & Holywell, Carlby, Castle Bytham, Corby Glen, Couthorpe & Creeton, Deeping St James, Dowsby, Dunsby, Edenham, Folkingham, Greatford, Haconby, Horbling, Imham, Kirkby Underwood, Langtoft, Little Bytham, Market Deeping, Morton, Pointon & Sempringham, Rippingale, Stamford, Swayfield, Swinstead, Tallington, Thurlby, Toft with Lound & Manthorpe, Uffington, West Deeping and Witham on the Hill
	West Lincolnshire	The district of Lincoln. The district of North Kesteven. The district of South Kesteven, except the parishes in the Coroner's Jurisdiction of Stamford. The district of West Lindsey, except the parishes in the Coroner's jurisdiction of Spilsby & Louth. In the district of East Lindsey, the parishes of East & West Barkwith, Hatton, Langton by Wragby, Panton, West Torrington, Wragby.
London	City of London	City of London
	Eastern London	The London boroughs of Barking, Havering, Newham, Redbridge & Waltham Forest
	Inner North London	The London boroughs of Camden, Hackney, Islington & Tower Hamlets
	Inner South London	The London boroughs of Greenwich, Lambeth, Lewisham & Southwark
	Inner West London	The London boroughs of Wandsworth & Merton, the Royal Borough of Kensington & Chelsea, and the City of Westminster
	Northern London	The London boroughs of Barnet, Brent, Enfield, Haringey & Harrow
	Southern London	The London boroughs of Bexley, Bromley, Croydon and Sutton
	Western London	The London boroughs of Ealing, Hammersmith, Hillingdon, Hounslow and Richmond-upon-Thames, and the Royal Borough of Kingston-upon-Thames
Merseyside	Knowsley, St Helens & Sefton	The districts of Knowsley, St Helens and Sefton
	Liverpool	The district of Liverpool
	Wirral	The district of Wirral

Administrative county/area	Jurisdiction	Description
Norfolk	Great Yarmouth	The borough of Great Yarmouth
	King's Lynn	The district of King's Lynn and West Norfolk
	Norwich & Central Norfolk	The city of Norwich, the districts of Broadland, Breckland, North Norfolk, and South Norfolk
Northamptonshire	Northamptonshire	The whole county of Northamptonshire
Northumberland	North Northumberland	The districts of Alnwick and Berwick-upon-Tweed and so much of the districts of Castle Morpeth and Wansbeck as lies north of the line for the time being of the centre of the River Wansbeck
	South Northumberland	The districts of Blyth Valley & Tynedale, and so much of the districts of Castle Morpeth & Wansbeck as lie south of the line for the time being of the centre of the River Wansbeck
North Yorkshire	North Yorkshire Eastern	The districts of Hambleton, Ryedale and Scarborough
	North Yorkshire Western	The districts of Richmondshire, Craven, Harrogate and Selby
	York	The county of York. In the district of Harrogate, the parishes of Nether and Upper Poppleton. In the district of Ryedale, the parishes of Clifton (without), Earswick, Haxby, Heworth (without), Holtby, Huntington, Murton, New Earswick, Osbaldwick, Rawcliffe, Skelton, Stockton-on-the-Forest, Strensall, Towthorpe, Wigginton. In the district of Selby, the parishes of Dunnington, Elvington, Fulford, Heslington, Kexby, Naburn & Deighton, Wheldrake.
Nottinghamshire	Nottinghamshire	The whole county of Nottinghamshire and the City of Nottingham
Oxfordshire	Oxfordshire	The whole of the county of Oxfordshire
Shropshire	Mid & North Shropshire	The districts of Oswestry, North Shropshire, Shrewsbury & Atcham
	South Shropshire	The districts of South Shropshire and Bridgnorth
	The Wrekin	The whole county of the Wrekin
Somerset	Eastern Somerset	The districts of Mendip and South Somerset
	Western Somerset	The districts of Sedgemoor, Taunton Deane and West Somerset
South Yorkshire	South Yorkshire East	The district of Doncaster and Rotherham
	South Yorkshire West	The districts of Barnsley and Sheffield
Staffordshire	South Staffordshire	The districts of Cannock Chase, East Staffordshire, Lichfield, South Staffordshire, Stafford and Tamworth.
	Stoke-on-Trent & North Staffordshire	The county of Stoke-on-Trent, and the districts of Newcastle-under-Lyme and Staffordshire Moorlands.
Suffolk	Suffolk	The county of Suffolk.
Surrey	Surrey	The whole county of Surrey
Teesside	Hartlepool	The county of Hartlepool
	Teesside	The counties of Middlesbrough, Redcar & Cleveland and Stockton-on-Tees.
Tyne & Wear	Gateshead & South Tyneside	The districts of Gateshead and South Tyneside
	Newcastle-upon-Tyne	The City of Newcastle-upon-Tyne
	North Tyneside	The district of North Tyneside
	Sunderland	The district of Sunderland
Warwickshire	Warwickshire	The whole county of Warwickshire
West Midlands	Birmingham	The districts of Birmingham & Solihull
	Black Country	The districts of Dudley, Sandwell, and Walsall
	Coventry	The district of Coventry
	Wolverhampton	The district of Wolverhampton
West Sussex	West Sussex	The whole county of West Sussex
West Yorkshire	West Yorkshire Eastern	The metropolitan district of Leeds and Wakefield
	West Yorkshire Western	The metropolitan districts of Bradford, Calderdale and Kirklees

Administrative county/area	Jurisdiction	Description
Wiltshire	Wiltshire & Swindon	The counties of Wiltshire and Swindon
Worcestershire	Worcestershire	The whole county of Worcestershire
WALES		
	Bridgend & Glamorgan Valleys	The county boroughs of Bridgend, Merthyr Tydfil & Rhondda, Cynon & Taff
	Cardiff & the Vale of Glamorgan	The county of Cardiff and the county borough of the Vale of Glamorgan
	Cardiganshire	The districts of Cardigan, Llanelli and Dinefwr
	Central North Wales	The county of Denbighshire, the county borough of Aberconwy & Colwyn.
	Ceredigion	The district of Ceredigion
	Gwent	The county of Monmouthshire, the county borough of Blaenau Gwent, Caerphilly, Newport and Torfaen
	Neath & Port Talbot	The districts of Neath & Port Talbot. In the borough of Lliw Valley, the communities of Cilybebyll, Clydach, Cwmllnffell, Gwam-Cae-Gurwen, Mawr, Pontardawe & Ystalyfera
	North East Wales	The boroughs of Flintshire and Wrexham. In the district of Glyndwr, the communities of Ceiriog Ucha, Chirk, Glyntraian, Llangedwyn, Llangollen, Llangollen Rural, Llanrhaeadr-ym-Mochnant, Llansantffraid Glyn Ceiriog, Llansilin & Llantysilio.
	North West Wales	The counties of Anglesey, Caernarfonshire, Merionethshire
	Pembrokeshire	The district of Preseli and South Pembrokeshire (including Caldey Island and St Margaret's Island)
	Powys	The whole county of Powys
	Swansea	The district of Swansea. In the borough of Lliw Valley, the communities of Gorseinon, Gowerton, Grovesend, Llangyfelach, Llchwyr, Penllergaer, Pontarsulais, Pont-Lliw.
NORTHERN IRELAND		
NORTHERN IRELAND		Whole of Northern Ireland
THE ISLANDS		
	Guernsey	Alderney, Brecqhou, Guernsey, Herm, Jethou, Lihou, Little Sark, Sark
	Jersey	Jersey
	Isle of Man	Isle of Man
SCOTLAND		
Argyll & Clyde	Dumbarton	Fiscal area (but figures included in Strathclyde Police figures)
Central Scotland Police		Clackmannanshire, Falkirk, and Stirling Council areas
Dumfries & Galloway Constabulary		Dumfries & Galloway Council area
Fife Constabulary		Fife Council area
Grampian Police		City of Aberdeen, Aberdeenshire, and Moray Council areas
Lothian & Borders Police		East Lothian, City of Edinburgh, Midlothian, West Lothian, and the Borders Council areas
Northern Constabulary		Highland, Orkney Islands, Shetlands Islands, and Western Isles Council areas, and parts of Argyllshire (Ardsnamuchan and Glencoe) and Morayshire (Grantown-on-Spey and Cromdale)

Administrative county/area		Description
Strathclyde Police		Argyll and Bute, East Dumbartonshire, Dumbarton and Clydebank, South Lanarkshire, North Lanarkshire, East Ayrshire, North Ayrshire, East Renfrewshire, City of Glasgow, Inverclyde, South Ayrshire, and Renfrewshire Council areas
Tayside Police		Angus, City of Dundee, and Perthshire and Kinross Council areas

Since the start of 2004, the following amalgamations of coroners' jurisdictions in England have occurred: East Berkshire, Reading and West Berkshire to form one for the whole county of Berkshire (1 April 2004); East and West Cornwall to form one for the whole county of Cornwall, but excluding the Isles of Scilly (1 February 2004); in Cumbria, Furness and Southern Cumbria to form South Cumbria & Furness (1 April 2004); Hertford and West & North Hertfordshire to form one for the whole county of Hertfordshire (1 October 2004); in Lincolnshire, Louth and Spilsby to form Spilsby & Louth (1 December 2003); in the West Midlands, Dudley, Sandwell, and Walsall to form Black Country (1 August 2004); in Derbyshire, High Peak and Scarsdale to form North Derbyshire (1 February 2006); in Gloucestershire, Gloucester and Cheltenham to form Gloucestershire (1 April 2006); in Suffolk, Greater Suffolk and Lowestoft to form Suffolk (1 August 2006). Further amalgamations have taken place in 2007, these changes will be reflected in future reports.

The retirement of several coroners has resulted in some coroners taking on responsibility for additional jurisdictions. The Isles of Scilly (regarded as part of Cornwall) are currently being looked after by the coroner for Plymouth & South West Devon. Data for Herefordshire are also submitted now together with those for Worcestershire. The two jurisdictions in Durham are now being looked after by the same coroner, but have not been formally amalgamated. The coroner for Suffolk is also coroner for Southend & South East Essex.

In Northern Ireland, a process of amalgamation has been completed and since 1 April 2006 there has been a single coroner's area covering the whole of the Province. It is centred on the Greater Belfast office and served by three full-time coroners, overseen by a High Court judge.

Appendix 3: np-SAD data collection form

The National Programme on Substance Abuse Deaths (np-SAD)

NOTIFICATION OF DRUG-RELATED DEATHS

Section I Demographic information

Deceased forename(s): _____ Gender: ☐ Male ☐ Female

Family name: _____ Other names known by: _____

Date of birth: ____/____/____ Place of birth: _____

Usual address: _____

Postcode: _____

Ethnicity (tick one only)

- ☐ White ☐ Pakistani ☐ Black African ☐ Other, specify _____
☐ Chinese ☐ Bangladeshi ☐ Black Caribbean ☐ Not known
☐ Indian ☐ Black other, specify _____

Occupational status (tick one only)

- ☐ Employed (manual) ☐ Unemployed ☐ Retired
☐ Employed (non-manual) ☐ Childcare/houseperson ☐ Student/pupil
☐ Self employed ☐ Invalidity/sickness ☐ Other, specify _____
☐ Not known

Living arrangements (tick one only)

- ☐ Alone ☐ Self and children ☐ No fixed abode
☐ With partner ☐ With parent(s) ☐ Other, specify _____
☐ With partner & children ☐ With friend(s) ☐ Not known

Section II Details of death

Date of death: ____/____/____

Place of death: (tick one only)

- ☐ Home ☐ Residential premises (.e. hotel) ☐ In custody
☐ Place of work ☐ Street or highway ☐ Place of recreation/sport
☐ Treatment centre ☐ Educational establishment ☐ Hospital
☐ Other place, specify _____

Cause(s) of death (as given on the death certificate)

- 1(a) _____
 (b) _____
 (c) _____
 2 _____

The National Programme on Substance Abuse Deaths (np-SAD)

Toxicology

Please list drugs and alcohol present at post mortem (in order of importance, if known)

	Drug/alcohol	Level				Drug/alcohol	Level		
		B	T	U			B	T	U
1					4				
2					5				
3					6				

B = Blood; T = Tissues; U = Urine

Section III Coroner's verdict

Section IV Background information

Recent history of drug use and other relevant information: e.g. evidence of injecting drug use; evidence of 'crack' use; recently released from prison or discharged from treatment programme; psychiatric history; known to alcohol/drug services; length of use; poly-substance user; known health problems associated with substance misuse; last 24 hours of life (if known), time police summoned, any drugs paraphernalia, etc.:

Was the deceased on prescribed psychoactive medication? ☐ Yes ☐ No ☐ Not known

If yes, please list drugs:

1 _____	2 _____
3 _____	4 _____
5 _____	6 _____

Was the deceased a drug addict or known drug abuser? ☐ Yes ☐ No ☐ Not known

Section V Coroner's details

Coroner's name: _____ Date inquest completed: ____/____/____

Jurisdiction: _____ Office: _____

Signature: _____ Date: ____/____/____

Please send completed form to:

National Programme on Substance Abuse Deaths (np-SAD)
International Centre for Drug Policy
St George's, University of London
FREEPOST LON 10141,
London SW17 0BR

For general enquiries: Tel 020 8725 2623 or Fax 020 8266 6494

This form is available electronically

Copies available from

National Programme on Substance Abuse Deaths (np-SAD)
International Centre for Drug Policy (ICDP)
St George's, University of London
Cranmer Terrace
London
SW17 0RE

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E-mail: npSAD@sgul.ac.uk

Price - £ 15 (including packaging and postage)

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